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Edited by HENRY C. PEARSON—Offices, No. 35 West 21st Street, NEW YORK.

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DECEMBER 1, 1907.

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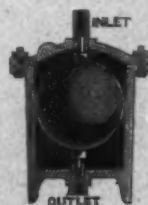
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THE BUSINESS SITUATION.

THE disturbance in the financial world, centering in New York, which has prevailed during a month past, apparently has become much less acute already. Considerable time may be required, however, for general business to recover from the shock caused by the interruption to the working of the credit system upon which practically all commerce is based. A few banks having been compelled to suspend—some of them have reopened already—there was a widespread tendency to hoard cash and to accept all forms of commercial paper with caution. There is, of course, no less money in existence than before, and no real wealth has ceased to exist. But there was a general curtailment of buying, apart from the limiting of credit, and many persons forced suddenly to realize upon securities found themselves much poorer by the shrinkage for the time being in values. As a result every form of business has been affected in some way, and international commerce as well has felt the effect of the crisis.

The whole situation has been one of suspended credit—the stoppage of the work of an intricate and wonderfully ramified machine. The United States as a nation are vastly more solvent than in 1893, the date of the last real “panic,” and as the keynote of American life is optimism the present financial flurry is likely to be passed much sooner than the event of fourteen years ago. The causes of the existing situation, of course, remain to be

defined and dealt with, but there is no such emergency as to cause fear that capable hands will not be found for this work.

Business in the rubber trade appears to have been in larger volume during the twelvemonth preceding the recent disturbances than in any other like period, and very many persons were disposed to feel that good trade conditions would continue indefinitely. At the leading centers, however, a feeling of caution was taking shape. Great transportation companies, estopped from further expansion by an unfriendly anti-corporation spirit which hindered them from securing further capital, were buying fewer supplies, and other evidences of a “slowing down” were evident to observant financiers. Finally, the better sentiment in the banking world demanded the retirement of certain speculative elements, which was followed by a “run” on a few banks and their suspension, but there is no proof that any of those banks is not solvent. The result of all this has been a marked check to activity in the rubber trade, along with other forms of business. The feeling is general that this will not be long continued, but just how long is the question.

After recovery, what? The country must continue to develop, and must have more commodities of all kinds, rubber goods included. Doubtless an era of more caution in the matter of credits is at hand, and less recklessness in the matter of doing business with insufficient capital. If, added to those desirable features, there shall be an improvement in the currency system, devised by congress as a result of this recent object lesson, the so-called “panic” of 1907 may not prove an unmixed evil.

QUACKERY IN THE TIRE FIELD.

THE first pneumatic tire ever made doubtless ended its career by becoming punctured, and possibly the same thing will happen to the last pneumatic tire that ever will be made. Yet not all these tires suffer such a fate, and the chances that a good tire will render good service are so great that many millions have been made and sold and used, and the rate of production is now greater than ever before. A single firm announced recently that it had produced altogether upwards of a million pneumatic automobile tires, and everybody who has bought one tire knows that a million of them call for a big pile of money. What better proof could there be that rubber tires are good tires?

At the same time there appear to be in the world some millions of timorous souls who regard all pneumatics with distrust. They want pneumatics, but insist upon it that they shall not puncture. What is more, they undertake to aid the tire by investing in all kinds of puncture preventing devices or substances. The recent financial stringency might have been avoided if the banks could have had command of all the money which inventors of so-called anti-puncture systems have paid out in patent office fees. Some of

these schemes have progressed far enough to be offered to the trade, and, totally regardless of merit, these have found buyers.

It all reminds one of the patent nostrums for the cure of human ailments. There are people with all sorts of real or fancied diseases who seem constantly to be on the lookout for new remedies for them; the more ridiculous the claims made for any given "cure-all," and the less it is countenanced by men learned in medicine, the more apt the stuff is to find buyers. So with the anti-puncture inventions. It appears to us that if any of these schemes had any merit it would be recognized by no one sooner than by the reputable makers of pneumatic tires, who would gladly and speedily offer to buy them at prices that would make the inventors rich. The best judges of puncture preventives or cures ought to be the men who have made the pneumatic tire an article of so much value to the world.

THE COMING DEMAND FOR SOLID TIRES.

THE commercial motor trials in England, under the auspices of the Royal Automobile Club, reported in this journal last month, have been followed by events in other European countries which indicate a deep and widespread interest in the practical development of this class of vehicles. In fact, the commercial motor just now appears everywhere to be attracting a larger degree of public attention, relatively, than automobiles of any other type, which is not unnatural.

The automobile as first developed, while undoubtedly of great utility, is first of all an article of luxury, which has appealed to popular interest largely on account of its connection with sport of a spectacular sort. Its use is limited to the wealthier members of society, and people of at least comparative leisure—classes liable to become deeply absorbed in a new form of recreation for a while, after which it gives way to some other diversion. It is not meant here to intimate that the use of automobiles as pleasure carriages has reached its limit, or shows any signs of coming to an end; but the growth of such use that has been so marked during ten years past can hardly continue indefinitely at the same rate.

Like horse drawn carriages, the automobile is for the most part an article of luxury, and the demand for such articles is subject, often without warning, to curtailment, just as now happens, when far-reaching economic changes are in progress in Europe and America alike. We have seen no reason to describe the situation in New York, for example, as resembling in any way a "panic," but it is conceded, we believe, that the placing of orders for new cars at the recent great automobile shows was less active than in former years, though the exhibits were of a higher type of excellence. The situation is simply one of greater caution in the matter of spending money for what may be done without.

The commercial vehicle, however, belongs to a class wholly apart. As the automobile was first developed to a high degree in Europe, so the possibilities of the self propelled goods wagon were first appreciated there, and the economy of the latter is being studied now as a commercial question of the first rank. The same condition is developing in America, where, the makers of automobiles having brought themselves in line with the leading makers abroad, the construction of practical and economical commercial vehicles is being taken in hand. It is an indication of the new progress that a special exhibition of commercial motors is now in progress in Chicago.

The difference between these and the pleasure vehicles is that the former are in a broader sense articles of necessity. The business man who may feel impelled for any reason to stop buying automobiles, may at the same time decide to buy more commercial vehicles, as an element in the more economical running of his business. And in this class must be reckoned motor 'buses, motor cabs, and the like. It is true that the motor 'bus services of London and Berlin have not realized all the promises made for them, but signs of improvement are in sight, and in London at least the number of horse drawn cabs on the street has been lessened very materially within a year or two.

All of which leads to the suggestion of the importance, on the part of the rubber industry, of providing tires suited to commercial vehicles, with no less painstaking than has been shown in the case of pneumatics. The fact that a tire is solid, and therefore immune against punctures, does not justify equipping a delivery wagon with cheap, poorly compounded, possibly ill-fitting rubber. Economy in use is the test—the lowest cost per service mile—and while many excellent solid tires have been made, we greatly doubt that the limit of improvement in them has been reached. This is a matter of all the more importance to the rubber trade, for the reason that ultimately the demand for tires for commercial vehicles must be many times greater than for any other class of automobiles.

THE INDUSTRY IN JAPAN.

OUR readers will remember the appearance in this paper a month or two ago of some views of buildings of the industrial exhibition held at Tokio during the past summer, together with some notes from a Japanese correspondent on the progress made by his countrymen in many branches of manufacturing, including the rubber industry. This exhibition, as was then stated, was purely national, no foreign displays having been invited. Had the few imposing buildings shown in our illustrations constituted the whole exhibition, it would have been no small affair, but this was not the case. We have seen an album of views of all the structures put up for the occasion—numerous, extensive, and many of them architecturally attractive. The mere fact of their existence proved a

deep and substantial interest in industrial development, and all reports are to the effect that the contents of the buildings were worthy of the pains taken to house them. Moreover, the people evinced their interest by a liberal patronage of the exhibition. On a single day, we learn, there were 116,000 visitors, and the gates were open for several months.

All this, of course, did not have to do with rubber. But its pertinence to the rubber industry is clear. The industries of modern Japan are being developed along lines copied from Europe and America, and as everybody knows, each new industrial advance makes a new demand for rubber goods, to say nothing of the individual consumption of rubber among the people. This is understood in Japan as elsewhere, and the government has not been slow to use its influence to encourage the production at home of every class of rubber goods that may be required, especially for public use.

This governmental policy is similar to that of Italy, a great rubber factory in which country was described in the last INDIA RUBBER WORLD. Italy is now obliged to import practically nothing in the shape of rubber goods. Not only this, but she exports such goods to an important extent, both to countries having no rubber factories, and to those in which the industry is so highly developed as in the United States. For example, we have shown that for the "harnessing of Niagara," Italy, in competition with the world, secured contracts for the great rubber insulated cables used for transmitting power from the falls.

The Italian enterprise is mentioned here only as an illustration of the development actually made in the rubber industry in a country in which it has been founded only in recent years. This will show at least that age in the industry will not be requisite to place Japan in an important position among rubber manufacturing nations.

THE QUESTION OF PLANTING PROFITS.

AS has been reported lately in this paper, the rubber trees tapped on the Vallambrosa estate last year showed a profit of nearly \$1 gold each. The Vallambrosa company paid in dividends to its stockholders nearly \$200,000 in gold last year. Therefore, say some enthusiastic planting companies in glowing circulars: "We can certainly do the same." But can they? We certainly hope so, and believe that some of them will do better. But if Vallambrosa plants *Hevea* rubber in the Far East and is successful it does not prove that *Castilloa* planted in Central America under different management will be equally successful. In other words, would not absolute fairness to the investor in selling stock of a plantation growing *Castilloa*, or Ceará, or *Kickxia*, lead the seller to explain that it was a different tree, possibly in their judgment a better tree, but anyhow to explain?

This is not written with the idea of insinuating that the *Hevea* is the only rubber tree that can be cultivated profitably. It is our belief that all of the trees named, in the right location, and properly handled, will be good producers. Is it not, however, the planters' duty of sorts other than *Hevea*, and in locations other than Ceylon or the Federated Malay States, to furnish facts and figures showing production and profits—that is, if they are going to sell stock?

ONE OF THE MOST SINGULAR THINGS in connection with the rubber history is the failure of England—a country which ranks so high in this branch as a whole—to do better in respect of hard rubber. It appears that the last factory in the United Kingdom making a specialty of hard rubber goods, after a one time prosperous career, has been closed, with no prospect of having a successor. The English continue to make other rubber goods in large quantities, and to export them on an increasing scale, but they must send abroad for hard rubber. It is not strange that the British fiscal policy should be blamed by some for this condition, but this is more easily asserted than proved. Besides, why should the effect of free trade upon hard rubber differ from its effect upon soft rubber? Evidently there are people somewhere else who have mastered the hard rubber industry better than the English, and perhaps it would be wise for manufacturers in this line in several other countries not to feel too securely entrenched against competition from abroad.

IT APPEARS IN ORDER TO OBSERVE that, although rubber price levels have changed recently to a greater extent than for a year or two past, so little has been heard of the alleged influence of speculators upon the market. In the financial world speculators are ever busy in "bearing" as well as in "bulling" the prices of stocks, but it is only when rubber begins to soar that the cry is heard that it is the work of speculators. No doubt speculation—in the sense in which the word is most commonly used—is responsible as often for cheaper as for dearer rubber. But in the long run speculators do not "make the market," and until conditions arise not yet foreseen, consumers must take long chances in the matter of figuring on what their raw rubber is going to cost them for any considerable time ahead.

INQUIRY IS BEGINNING TO BE ACTIVE for machinery for use in the preparation of raw rubber—for the new type of "rubber factory" to which we devoted an article recently. The demand for such machinery is of too recent growth for standard types to have resulted, but the demand is growing, and likely to rival in importance the requirements for rubber goods factories. It does not seem too early for enterprising machinery builders to begin to turn their attention to this new rubber interest; some are doing it already.

THE PLANTERS' ASSOCIATIONS in Ceylon and the Federated Malay States, without doubt, have promoted the rubber planting interest in those colonies to an important degree. They have brought about the coöperation of their members in many matters pertaining to plantation development, the preparation and marketing of rubber, dealing with the local authorities, and so on. The associations have thus become recognized as truly representative of the planting interest, as, for example, when petitioning the government on any matter of mutual importance to the estate owners. But the high character maintained by these organizations is due not a little to the fact that they have never been used for the selfish advantage of individual members, but only for the common benefit.

THE EDITOR'S BOOK TABLE.

BOLIVIA. THE CENTRAL HIGHWAY OF SOUTH AMERICA. a Land of Rich Resources and Varied Interest. [By] Marie Robinson Wright. Philadelphia: George Barrie & Sons. [1907.] [Cloth. Large 4to. Pp. 450 and map. Price \$10.]

THIS is not the first work on South America from the pen of the lady whose name adorns the title page of the present sumptuous volume, and her previous performances had prepared us to form expectations with regard to her "Bolivia" which have not been disappointed. Mrs. Wright has actually traveled in the countries she describes under conditions which have won for her mission the sympathetic interest and coöperation of official and the best social circles, and given her an opportunity to study the circumstances of life of even the primitive inhabitants.

Throughout this work runs a thread of narrative of personal experience which heightens its interest to the reader. Her perspective is such as to afford an informing amount of detail, without wearying one who follows her, while on every page is at least one illustration which either tells a story by itself or serves to elucidate the text. We feel that most readers will agree with Mrs. Wright that Bolivia is a land of great interest, and to very many of them it doubtless will prove a veritable new found land. It is not too much to say that this is the best single work on Bolivia in English.

The authoress visited the rubber districts on the Beni river and presents a number of photographic views illustrating the rubber gathering industry, some of which are the best pictures in this line that we have seen.

CAOUTCHOUC E GUTTA-PERCHA. PER IL DOTT. LUIGI SETTIMI. (Manuali Hoepli.) Milan: Ulrico Hoepli. 1907. [Cloth. 16mo. Pp. xvi + 253. Price 3 lire = 60 cents.]

THIS is one of a series of practical manuals issued by a leading Italian publisher, written by an official chemist in Rome. The salient points of the history and sources of rubber are covered, though the author has the usual difficulty in handling the barbarous names which the botanists serve up to us. He is more at home in describing the physical and chemical properties and preparation of rubber, and in the basal principles of its manufacture. We cannot entertain his notion that Panama rubber, for instance, is made from *Hevea* smoked with palm nuts and boughs of rubber trees; nor can we quite agree with him that the centrifugal process of treating latex is a grand success. He describes the manufacture of automobile tires with delightful simplicity. Two sheets are placed upon a cotton fabric treated with rubber paste, and put into a hydraulic press. Those who know the goodness of Italian tires will be slow to believe that. The parts of the book which deal with compounding ingredients, substitutes and the like, appear to be based largely upon Mr. Pearson's book, with curious errors in spelling and some other revelations, as when orris root is translated "*le radici di iris*." In the paragraphs on oxide of gold, adamanta, and some others, the Italian translator quite missed the meaning. The book also has tables on the world's production and consumption of gutta-percha, and on the exports and imports of rubber and gutta and manufactures in the Italian trade, from 1890 to date.

COMMERCIAL AND INDUSTRIAL GEOGRAPHY. A TEXT BOOK for schools, colleges, and private reference. By John J. Macfarlane, A. M., Librarian of the Philadelphia Commercial Museum, and Edwin Hebben, A. M., principal Group A, Baltimore public schools. Baltimore: Sadler-Rowe Co. [1907.] [Cloth. 8vo. Pp. xiii + 383 + xxxvi + charts. Price, \$1.20.]

Commercial geography treats of the world as one market, with the various nations or sections as producers and consumers. Trade was, is and ever shall be vexed by the selfish few; but there is less of this every day, because the great majority generally prefer to buy where they can buy cheapest and to sell where they can sell dearest. Commercial geography tries to show where to buy and sell. As might be expected, the book before us is at once too broad and too narrow. The authors

need hardly have reminded us that earthly life is dependent upon solar heat and light, that the earth is nearly spherical in form, and that air is an actual substance. Since they attempt to cover all commodities, it is but natural that they cannot dwell long on any, and that the values given each should often be disproportionate. Still, the perspective is fairly well preserved, the expression is short and clear, and the statistics well handled. About a third of the book is devoted to raw materials. Then follow a few pages on manufactures, and the rest of it is given up to a general description of the political divisions of the world. This part is weak in its concept, since commercial geography should disregard political forces and groupings, except as disturbing influences. When commercial geography takes account of governments, it becomes political economy.

THE CONSULAR SERVICE OF THE UNITED STATES; ITS HISTORY and Activities. By Chester Lloyd Jones. [No. 18 in the Political Economy and Public Law Series. Publication of the University of Pennsylvania.] Philadelphia: The John C. Winston Co. 1906. [Cloth. 8vo. Pp. ix + 120. Price, \$1.50.]

THE object of this work is to sketch the history of the consular service, and to point out especially the development, in recent times, of its relations to trade. It also aims to indicate the service actually rendered at the present time, the limits of the aid which consuls can lend to commerce, and the defects in the present consular organization of the United States. There is also a chapter on European consular systems. At this time, when serious efforts are being made along so many lines, for improving consular services, and with promising results, particularly with regard to the promotion of trade, the appearance of this book is opportune; it is also informing, and its suggestions worth considering—not the least important ones dealing with what the consuls cannot do.

EL PALO AMARILLO ("*EUPHORBIA ELASTICA*") COMO PRODUCTOR de Caucho. Por el Dr. Fernando Altamirano. Primera Memoria. Mexico: Secretaria de Fomento. 1905. [Paper. 8vo. Pp. 26 + 6 plates.]

A SCIENTIFIC summary of facts regarding the Mexican "yellow tree" considered as a rubber producer. The tree, by the way, has been renamed recently by the staff at Kew *Euphorbia fulva*. It was illustrated and described in THE INDIA RUBBER WORLD February 1, 1906 (page 148).

HENDRICKS' COMMERCIAL REGISTER OF THE UNITED STATES, for Buyers and Sellers. New York: Samuel E. Hendricks Co., No. 74 Lafayette street. [1907.] [Cloth. Large 8vo. Pp. LXXVI + 1224. Price, \$10.]

THE regular appearance of this reference work for 16 consecutive years, each edition being larger than its predecessor, is alone a guarantee of merit. The publishers state that the current volume contains upwards of 350,000 business names and addresses, classified under 31,212 headings, and 76 closely printed pages are devoted to an index of these headings, by means of which the manufacturers of or dealers in almost any conceivable article may be referred to easily. On the whole, it appears to us to be a book of real value. It can hardly be expected to be a complete directory of any given line of business, but if it gives even a few good houses under every heading, it proves a serviceable work of reference. Our only criticism is that some obsolete names are included, and the proofreading might have been done better.

IN CURRENT PERIODICALS.

Le Caoutchouc en Nouvelle Calédonie. By M. Etessé, chief of the agricultural service. [The native and introduced species; history of exploitation; illustrated.] *L'Agriculture des Pays Chauds*. Paris. VII-53 (Aug. '07). Pp. 102-120.

PERILS OF THE CRUDE RUBBER TRADE.—*The Brazilian Review* refers to the gathering of rubber in parts of Amazonas as a perilous occupation, and mentions the sending of a detachment of soldiers from Manaus into the interior to deal with Indians who have been killing rubber workers and rifling their houses. At the same time a newspaper from the East reports the capture of a tiger on a rubber plantation in Johore, after he had killed seventeen natives. The tiger measured 12 feet from tip to tip and will be preserved for show purposes.

Tires at the Madison Square Garden Show.

THE second New York automobile show this season was held at Madison Square Garden on November 2-9, under the direction of the Association of Licensed Automobile Manufacturers. In other words, so far as automobiles were concerned, the exhibitors were American makers licensed under the Selden patent. The exhibits of tires and motor accessories were, for the most part, the same as were displayed at the Grand Central Palace show in the preceding week, and embraced a full exhibit by The Motor and Accessories Manufacturers, Inc. There was a larger display than usual of motor cycles, and a good showing of commercial vehicles.

The net result of the two automobile shows, in the generally expressed view, is that the past year has shown a further advance in automobile construction in America, but space will not be taken here for an analysis of the improvement made. The accessories shown embraced many novelties for the increased comfort or safety of the motorist. But it is to the tire features that this report must be devoted mainly.

The clincher type of pneumatic, of course, remains in the lead. As to the tire section and the means for retaining tires in place on the old type of clincher rim, such details have long ago—as the tire trade goes—been standardized. Last year all the leading firms exhibited clincher rims modified by rendering one of the flanges detachable for the more easy removal of a tire. This year the tendency is similarly general to supply rims which are removable entire, the tire coming off with them. The motorist who is equipped with a spare rim of the new type on which is mounted an inflated tire, in case of any tire trouble on the road, has only to remove the rim from the lame wheel and put on the spare one—a simpler matter than dealing with any sort of tire replacement before known. Pneumatic tires are stronger, perhaps, than before, and the evident tendency is to equip cars of a given weight with larger tires. The number of American makers of pneumatic tires has increased during the year, not counting the entrance into the field, as domestic manufacturers, of the Michelin and Continental companies. Some new foreign makes were shown.

AMERICAN RUBBER TIRE MAKERS.

AJAX-GRIED RUBBER Co. (New York).—Wrapped tread pneumatics, which differ from the company's previously made molded tires in having a cushion of Pará rubber between the carcass and the tread, and a breaker strip between the cushion and the tread to prevent the separation of the tread from the carcass. In curing a tire the carcass is first vulcanized and the tread which varies in thickness according to the size of the tire is put on raw and hand wrapped, after which the old tire is cured by the open steam process.

REPRESENTATIVES.—Horace DeLisser, president. Branch managers: Leon B. Smith, New York; J. B. Burwell, Chicago; Charles Hatch, Detroit. R. S. Ireland and H. M. DeSilva, traveling salesmen.

CONSOLIDATED RUBBER TIRE Co. (New York and Akron).—This company showed for the first time regular type automobile clincher pneumatic tires, which they describe as the "Kelly-Springfield," the designation by which the solid tires made by the same company have so long been known.

REPRESENTATIVES.—Van H. Cartmell, president; F. A. Seaman, secretary; S. S. Miller, factory superintendent. Branch managers: F. A. Kissell, Philadelphia; Stanley F. Hall, Boston; F. E. Holcomb, Southern representative; E. J. Todd, Connecticut representative. Salesmen: F. A. Oatman and E. S. Roberts, New York.

CONTINENTAL CAOUTCHOUC Co. (New York).—Pneumatics in three styles—Continental round or wrapped tread, flat or racing tread, and "rouge ferré" or anti skid, the latter being metal studded. The flat treads have corrugated surfaces, and all the

styles are furnished in American and metric sizes. A new detachable or demountable rim was shown, held in place by bolts passing through the felloe and having washers which grip the rim. This system can be adapted to any type of tire. The idea is that the motorist may carry a spare rim, having on it an inflated tire, and in case of puncture this can be substituted readily for the rim and tire on the wheel which is the seat of the trouble. The Continental company, whose tires hitherto have been made in Germany, have arranged to supply their American trade hereafter with tires made on this side of the Atlantic.

REPRESENTATIVES.—J. M. Gilbert, general manager. J. H. Sheldon, sales manager. Branch managers: James L. Gibney, Philadelphia; Stanley Brooks, Detroit; Mr. Hart, Buffalo; Mr. Thompson, Boston. B. J. Collins and E. E. McMaster, Western travelers. E. S. Brower, New Jersey and New York state traveler. William A. Rutz, New England sales manager. S. S. Poor, New York salesman.

THE DIAMOND RUBBER Co. (Akron, Ohio).—"Wrapped tread" pneumatics of several types: Regular clincher (one-piece rim), in American and French or millimeter sizes; quick detachable clincher type, for the Marsh rim (also shown by the Diamond company) or other special rims; and tires of the "mechanical" type, for the Dunlop and Fisk style of rims. All these were shown in the flat tread, regular, "Bailey Won't Slip," and Diamond non skid treads. The last mentioned is a new tread, in which specially hardened rivets are inserted through rubber and fabric under hydraulic pressure, and secured by washers. The Marsh rim, by the way, has been modified somewhat, so that it can now be manipulated without any other tool than a small wrench. A new feature is the "Diamond Electric," a clincher tire of special construction for light electric vehicles, referred to as usually resilient, enabling cars to go farther and faster than on the tires made for the heavier gasoline cars. Two types of solid tires were shown—the Diamond "wire mesh base" and the "side wire"—both made of a new rubber compound, almost white, and claimed to be extremely tough and resilient.

REPRESENTATIVES.—A. H. Marks, manufacturer; W. B. Miller, sales manager; O. J. Woodard, manager solid tire department. Branch managers: C. H. Smith, Chicago; H. C. Miller, St. Louis; E. H. Fitch, Philadelphia; G. J. Bradley, Cleveland; W. M. Perrett, Detroit; N. E. Oliver, Buffalo; J. W. Paul, Pittsburgh; W. P. Cronin, Boston; W. E. Roby, Minneapolis; W. D. Allbright, Pacific coast. James A. Braden, advertising manager. Salesmen: H. P. Howlett, Boston; E. P. Webber, Philadelphia; E. B. Tozier, Cleveland; E. B. Williams, H. C. Mills, B. W. Snowman, J. F. Lanier, George Davidson, J. B. Cothran and E. W. Kidder, New York.

DOW TIRE Co. (New York).—The Dow non deflation tube, the air holding property of which is due to the mechanical action of a layer of flexible fabric about 3-32 inch thick, held in a chamber molded in the walls of the tube. The intended result is to render the tube self-sealing in the case of a puncture.

REPRESENTATIVES.—Alexander Dow, president; Harry D. Gue, vice-president; J. Abrahams, superintendent; Mr. Dunham, New York, salesman.

EMPIRE AUTOMOBILE TIRE Co. (Trenton, New Jersey).—Clincher pneumatics with round, raised oval, and Midgley treads, and inner tubes both red and gray. Also a line of tire accessories, including "the tire preserver," which is a pad of cotton fabric and rubber to fit over the inner tube with the purpose of strengthening an old case which may have begun to break in the fabric. Also the Empire secondary wire, rubber insulated, for automobiles.

REPRESENTATIVES.—Charles H. Semple, president; A. Boyd Cornell, secretary; W. G. Whitlock, sales manager. Branch managers: E. B. McKay, Chicago; W. H. Chadwick, Boston; H. B. Smith, Buffalo. E. B. Richardson, general traveling salesman; J. C. West, Southern traveling salesman.

EMPIRE STATE TIRE Co. (Buffalo, New York).—Greenwald non-

skid tread, Greenwald extensible tread pneumatic, for which the company named control the trade in New York and some other states. They also market the sectional repair vulcanizer for tires.

FIRESTONE TIRE AND RUBBER CO. (Akron, Ohio).—The "side wire" solid tires for motors and other vehicles, and also pneumatic clincher tires and inner tubes. Two new features were the dual non skid tread for pneumatics, consisting of two ridges of rubber extending around the tire. This tread is thicker than on the regular Firestone wrapped tread, and the surface of the two ridges is corrugated to afford further protection against skidding. Another novelty was the 1908 Firestone dismountable rim, which may be used in connection with any clincher tire; its dismountable portion is held on the felloe by six bolts, the removal of the nuts allowing the tire and clincher rim to slide off in one motion.

REPRESENTATIVES.—Branch managers: O. R. Cook, Cleveland; J. V. Mowe, Chicago; Frank L. Martin, Detroit; W. P. Berrian and Walter Wells, New York; R. J. Firestone, general sales manager; E. P. Cleveland, Detroit; Thomas Glenn, Boston; W. R. Walton, Philadelphia; C. E. Jackson, Pittsburgh. Salesmen: E. M. Eldridge, New York; P. B. Talbot, Boston; J. V. Spencer, traveling salesman. J. S. Singleton, advertising manager, and F. Z. Binkard, specialties.

THE FISK RUBBER CO. (Chicopee Falls, Massachusetts).—Shown the well known "mechanically fastened" pneumatic and also tires to fit the regular clincher and quick detachable rim. The mechanically fastened as now shown is more readily detachable than formerly. Fisk tires are made with regular and "Bailey Won't Slip" treads.

REPRESENTATIVES.—H. T. Dunn, president; H. G. Fisk, secretary; E. H. Broadwell, sales manager. B. H. Pratt, special Chicago representative. Branch managers: William Lambe, New York; George Campbell, Boston; James Kavanaugh, Cleveland; C. H. Gage, Pittsburgh; Samuel Moses, Buffalo. Fred Ayres, New England salesman; B. F. Meixell, Indianapolis salesman.

G & J TIRE CO. (Indianapolis, Indiana).—Round wrapped tread clincher tires in addition to the company's former flat tread, and also the Midgley tread for antiskidding. The company's tires are made in G & J and Dunlop types, and the Bailey tread is supplied to customers desiring it. Solid rubber bumpers were shown.

REPRESENTATIVES.—B. C. Dowse, president; G. H. Hamilton, sales manager. Branch manager: Mr. Philp, New York. Salesmen: Herbert Githens, Indianapolis; Charles Mcnson, Detroit; Frank Berrodin, Buffalo; Mr. Price, Boston; Mr. Cropley, Chicago. H. C. Prentice, traveling salesman.

THE B. F. GOODRICH CO. (Akron, Ohio).—The regular Goodrich clincher pneumatic type, in smooth, Bailey, and flat treads. Also the Goodrich quick detachable rims. The company have been testing a new white rubber compound for treads but have not yet decided to adopt this as standard.

REPRESENTATIVES.—Branch manager: F. Y. Stewart, New York. Harry Miller, special representative from Akron. Salesmen: W. A. Whitnack, E. J. Dockery, J. M. Ferriday, E. W. Bonham, R. Rhyne and W. H. Hart, New York; R. J. Murphy, Philadelphia; W. S. Talbot and W. W. Mackenzie, Boston.

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio).—The Goodyear universal rim, with detachable flanges, and detachable tires made up in various types were the center of interest in this exhibit. The universal rim was shown as adapted to the various leading types of tires. A new tire made of special fabric is called the "electric tire" on account of being made very light for use on small electric vehicles. Another novelty was the Goodyear heavy tourist non skid detachable tire, with flat or round treads. There were also shown tires for regular clincher rims and also motor truck and motorcycle tires and a 4 inch tire especially to fit rims formerly carrying 3½ inch tires.

REPRESENTATIVES.—F. A. Seiberling, president; C. W. Seiberling, treasurer; George M. Stadelman, secretary. Branch managers: Charles Measure, New York; W. T. Teager, Boston. Salesmen: James Coggeshall and Irving Penniman, Boston; W. M. Doucette, New York state and Connecticut; C. C. Hammerlee, New York city; H. C. Humber, Brooklyn and Long Island; N. A. Merriitt.

THE HARTFORD RUBBER WORKS CO. (Hartford, Connecticut).—The Hartford clincher and Dunlop pneumatic tires. The company's new quick detachable tire has a nonextensible wire edge similar to the Dunlop, with a head on the side which fits into the clinch of the rim. The new Midgley universal rim was shown here and the Midgley tread, which embraces a series of endless wire coils running around the tread of the tire and almost completely embedded in the rubber, this feature being applicable to solid tires or pneumatics alike.

REPRESENTATIVES.—J. D. Anderson, president; E. R. Benson, secretary; H. E. Field, sales manager. Branch managers: E. S. Roe, New York; William Bell, Chicago; P. Goodall, Cleveland; E. Breed, Boston. Salesmen: H. E. Snyder, W. R. Brown and E. Fahy, New York; W. E. Orr, Cleveland; Richard Clunan, Hartford; C. Langmaid, Boston.

MICHELIN TIRE CO. (Milltown, New Jersey).—Shown for the first time in America a new compressed tread pneumatic. Its shape is such that when mounted on the rim and the inner tube inflated, the rubber on the tread is compressed instead of being distended, this compression adding to the durability of the tire. A cut in an ordinary round tread envelope tends to open and admit water and sand to the detriment of the material, while with these tires the cuts close up and thus keep out foreign matter. A flat tread tire for heavy road work was shown, and anti skid tires. Also the Michelin demountable rim, which may be fitted to any of the well known detachable rims. Michelin tires are made in American and metric sizes.

REPRESENTATIVES.—Traveling salesman: R. B. Tracy, James Tansey, William Hobbs, C. H. Hendricks, Harry Snyder, Fred Suhr, Harry Benner, T. A. Bruen, R. C. Smith and Mr. Fiske.

MORGAN & WRIGHT (Detroit, Michigan).—Wrapped tread pneumatics of standard clincher type and also with flat Bailey Won't Slip and Midgley tread. Single tube tires and tire tubes were also shown, and rubber bumpers for the protection of motor car springs. Solid tires of the side wire type were shown.

REPRESENTATIVES.—Charles J. Butler, president; A. I. Philp, vice president; Joseph Weston, secretary. Branch managers: E. S. Hilton, New York; Mr. Alexander, Chicago; B. S. Walters, Philadelphia; A. O. Measure, Boston; George McClaren, manager motor truck tire department. Salesmen: T. R. Burton, John B. Tower, M. M. Marple, A. Straus, G. W. Kayton, T. L. Hausman and G. C. Gaillard, all of New York.

THE MOTZ CLINCHER TIRE AND RUBBER CO. (Akron, Ohio).—The New Motz non skid cushion tire adapted to clincher rims. Demonstrations were given of the resiliency of this tire and the method of attaching it to different makes of rim.

REPRESENTATIVES.—Charles A. Motz, president; Nicholas Seil, secretary and treasurer; Paul Bertsch, a director in the company.

PENNSYLVANIA RUBBER CO. (Jeannette, Pennsylvania).—Clincher pneumatics in various types, including non skid tires equipped with rims of hardened steel rivets studded with strips of leather into the rubber of the tire. Egyptian cotton instead of Sea Island is now used in Pennsylvania tires and some of them are made with treads of white rubber compound designed particularly to resist wear. Single tubes for tires were also shown.

REPRESENTATIVES.—H. W. Dupuy, treasurer; Mr. Alden, general manager; Wilmer Dunbar, superintendent; Frank Walters, manager bicycle tire department; R. B. McMullen, sales manager for motor tire department. Salesmen: George M. Port, general; A. M. Joralemon, and Percy Whitmore, New York; N. A. Tichenor, Pennsylvania.

THE REPUBLIC RUBBER CO. (Youngstown, Ohio).—The Republic clincher pneumatic, which is held on with the company's detachable flange and rim. The outer case forms a perfect cylindrical tube with a broad flat base, it being claimed for the tire that it fits the rim exactly and stays there. The company also showed the Republic tire for regular clincher rim.

REPRESENTATIVES.—L. J. Lomasney, vice president; Frank J. Hill, sales manager; Mr. Petersen, superintendent; Mr. McGuire, mechanical director. Homer G. Martin, representing Brooklyn, Long Island, and New York state. John Kelly, Chicago sales manager.

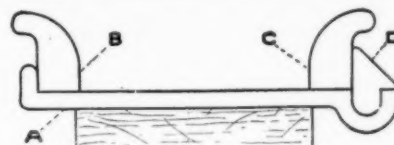
THE SWINEHART CLINCHER TIRE AND RUBBER CO. (Akron, Ohio).—This display embraced the regular Swinehart type of



THE FISK REMOVABLE RIM.



A MOTORCYCLE TIRE.
[Quick Detachable Non Skid Tread
Tire made by the Goodyear
Tire and Rubber Co.,
Akron, Ohio.]



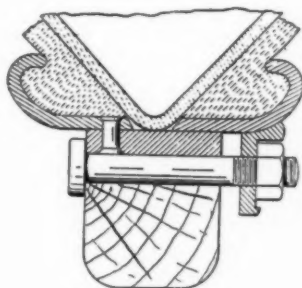
FIRESTONE SAFETY UNIVERSAL RIM.
[Adapted for any quick detachable tire.]



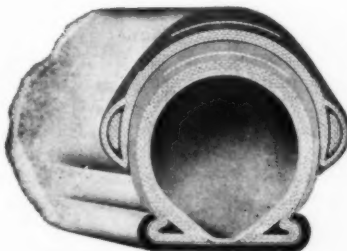
FIRESTONE SAFETY UNIVERSAL RIM.
[Adapted to any detachable clincher tire.]



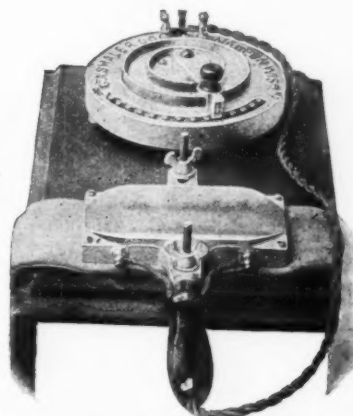
FIRESTONE DUAL TREAD SOLID TIRE.
[The illustration represents the largest tire on exhibi-
tion at the recent automobile shows.]



THE PARKER RIM.
[Invention of Orrel A. Parker, president
of the Newmastic Tire Co.]



STANDARD TIRE PROTECTOR.
[Made by the Norris Auto Co., Saginaw,
Michigan.]



SHALER ELECTRIC VULCANIZER.
[Manufactured by the C. A. Shaler Co.,
Waupun, Wisconsin.]



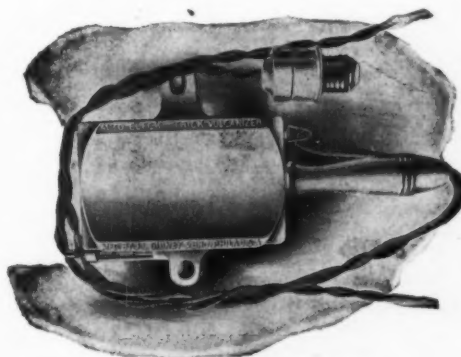
GOODYEAR UNIVERSAL RIM.
[The same showing flanges adapted to any standard
clincher tire.]



GOODYEAR UNIVERSAL RIM.
[Showing style flanges adapted to Goodyear detach-
able tires.]



GOODYEAR TOURIST TIRE.
[Non Skid, Detachable, Flat
Tread.]



AUTO ELECK-TRICK-VULCANIZER.
[Manufactured by J. L. Gibney & Brother, Philadelphia.]

solid tire, some in very large sizes, single and "twin." A new device is a chain resting in a channel all around the tire tread, to prevent skidding and increase traction. A new Swinehart tire in square sections has the tread molded with holes of $\frac{1}{4}$ inch diameter, designed to prevent skidding, besides which the resilience of the tire is increased. The new feature has been described as being the opposite of the Bailey idea, in which the tread is provided with numerous projecting points of rubber. At this stand was shown a new non skid tread brought out by The Rempes Tread Co. (Akron, Ohio). The tread is marked with deep set diamond shaped fret work.

REPRESENTATIVES.—B. C. Swinehart, vice president and sales manager. Branch managers: E. O. Hoopengartner, New York; R. A. Brine, Boston. Salesmen: F. A. Brine, Boston; John Kelly, and A. L. Giegist, New York.

OTHER TIRES AND SOME ACCESSORIES.

NEWMATIC TIRE CO. (New York).—Newmastic is an elastic, resilient material, for replacing air in pneumatic tires, for protection against tire troubles. The company showed inner tubes filled with this material, complete tires fitted with such tubes, and the Parker quick detachable clincher rim, patented by Orrel A. Parker, president of the Newmastic Tire Co.

REPRESENTATIVES.—Orrel A. Parker, president and treasurer; Robert H. Hahn, secretary; Otto B. Schmidt, a director; Oliver Edick, demonstrator; William L. Von, New York foreman; William L. Ulyat, New York manager; Charles Bromley, Brooklyn agent; Jefferson Everson, New Jersey agent.

HERZ & CO. (New York).—The tires marketed in America as the Herz tire and Herz's anti skidding tire, manufactured in Austria, by the Wien-Traisirkirchener Gummiwaren-Fabrik Josef Miskolczy & Co., of Vienna. The anti skidding tire is studded with metal rivets.

REPRESENTATIVES.—Gustav Reno, secretary and treasurer; Emil Schoenstein, engineer and foreman; Harry Weber, traveling salesman; Louis Kunstler, New York salesman.

PNEU L'ELECTRIC CO. (New York).—The pneumatic tires made by the Société Industrielle des Telephones of France, in American and metric sizes. Also, "Samson" non skid leather covers. Samples of the rubber insulated electric wires for automobile purposes, by the same French company, appeared at this stand.

REPRESENTATIVES.—L. E. Siegel, store salesman. Henry Weiss and W. R. Coleman, New York salesmen.

LEATHER TIRE GOODS CO. (Newton Upper Falls, Mass.).—The Woodworth studded leather tread tire cover, the "Kant-Skid" tire grips, and a leather tire tube. The 1908 leather tread differs from former models in that the strength of the wearing portion has been increased by the use of a two ply chrome leather lining. The new tube offered is made of rubber, covered with chrome leather tanned to give the strength and elasticity.

REPRESENTATIVES.—C. B. Woodworth, president; A. P. Marshall, correspondent; Fred Blumenfeld, New York manager; C. L. Rhodes, traveling salesman.

HEALY LEATHER TIRE CO. (New York).—The standard leather automobile tire which this company has been marketing for more than a year past.

REPRESENTATIVES.—Harry L. Graf, general sales manager; William G. Hurtzig, Morristown branch manager; Albert Olson, New York salesman; R. A. Williams, Brooklyn salesman.

NORRIS AUTO CO. (Saginaw, Michigan).—The "standard" tire protector, invented by W. T. Dorgan, superintendent of the company's factory. They purchase stock from a rubber manufacturer and make up the goods at Saginaw. The protector fits over the tread surface of the tire without any mechanical fastenings.

THE AUTOMOBILE UTILITIES CO. (Boston).—The Shaw self sealing inner tube. The self sealing feature is a layer of compound composed of melted rubber and asbestos fiber, outside the air tube of the tire, the whole being wrapped with canvas.

REPRESENTATIVES.—A. B. Shaw, the inventor; Mr. Hall, president; Nathaniel B. Wales, treasurer. C. A. Fultz and Frank D. Brannan were in charge of the exhibit.

ARTHUR H. MIDDLETON (Philadelphia).—Showed the Hubbard patent tire, of solid rubber, in sections, for commercial vehicles.

ACCESSORIES.—Traver Blowout Patch Co. (New York), patented blowout patches for tires; Auto Improvement Co. (New York), "Ever Ready" tire tool; Weed Chain Tire Grip Co. (New York), chain tire grips; Hopewell Brothers (Cambridge, Mass.), waterproof tire case; The L. J. Mutty Co. (Boston), waterproof fabrics for automobile tops; Ed. Dubied & Co. (Couvret, Switzerland—represented by Ch. H. Dien, New York), rivets for anti skid tires; The Gilbert Manufacturing Co. (New Haven, Conn.), automobile fabric supplies; C. A. Shaler Co. (Waupun, Wisconsin), electric vulcanizers for tire repairs.

CHICAGO AUTOMOBILE SHOW.

The seventh annual automobile show at Chicago is in progress, having opened on the evening of November 30, to continue until December 7. It is housed, as last year, in the Coliseum building, and in the armory of the First Regiment. It is participated in by the National Association of Automobile Manufacturers, Inc., the Association of Licensed Automobile Manufacturers, the American Motor Car Manufacturers' Association, and the Motor and Accessories Manufacturers' Association, Inc., making it representative of the whole American automobile industry. During the same dates the first annual exhibition of commercial cars will be open in the Seventh Regiment armory. The various tire manufacturers who exhibited at New York have displays at Chicago.

EUROPEAN AUTOMOBILE SHOWS.

The sixth International Motor Exhibition of The Society of Motor Manufacturers and Traders, Limited, of Great Britain, was held at Olympia, London, on November 11-23. This show is officially recognized by the Royal Automobile Club and is under the patronage of the King. There were about 140 makes of automobiles on display, and the tire trade was very fully represented.

The thirty-first annual Stanley Show, at Royal Agricultural Hall, London, which has become more important as an exhibition of motor cars than of bicycles, was held November 22-30.

The tenth Exposition Internationale de l'Automobile, du Cycle, et des Sports, at the Grand Palais, Paris, was held on November 12-December 1. The French tire trade, as usual, was strongly represented.

In Germany, the Internationalen Automobile-Ausstellung will be held in Berlin, on December 5-22.

The Brussels exhibition is scheduled for December 21-January 1, and the Italian exhibition, at Turin, to begin on January 18.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha from the United States for the month of September, 1907, and for the first nine months of five calendar years:

MONTHS.	Belting Packing and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
September, 1907.....	\$131,188	\$305,552	\$295,038	\$731,778
January to August...	920,715	908,440	2,702,777	4,531,932
Total	\$1,051,903	\$1,213,992	\$2,997,815	\$5,263,710
Total, 1906.....	805,296	936,350	2,361,917	4,103,563
Total, 1905.....	856,493	941,858	2,129,936	3,928,287
Total, 1904.....	647,245	844,802	1,779,256	3,271,303
Total, 1903.....	633,744	628,592	1,855,756	3,118,092

The discovery of asbestos is reported in several places near Dawson (Alaska), and elsewhere in the Klondike region. Rich asbestos deposits have also been reported lately in the mountains of northern Luzon, in the Philippines.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

THESE important contracts are now let at a somewhat different date than was customary in former years. The specifications go out about the end of October, to be returned by the end of November. So far as I know there is no alteration this year in the tests decided on three years ago, the

ADMIRALTY CONTRACTS.

alcoholic potash extraction being principally relied upon as indicating whether the best rubber has or has not been used by the contractor. By the way, if rumor is correct, there has been more than one rejection of goods during the past year for not standing the test, but this is a matter which in its details is as well hid beneath the kindly veil of silence. It may not be without interest to mention that a certain amount of repairing work is given out by the admiralty authorities to private dockyards on the Tyne and at Barrow. These sub-dockyards, as they may be called, are obliged to obtain their rubber supplies, valves, packing, etc., from the admiralty dockyards, or they may get them direct from the admiralty contractors. In either case the testing for quality is carried out by the admiralty chemist.

A FRIEND of mine who has recently returned to England after a good many years trading in Borneo had some interesting facts

BORNEO RUBBER.

to relate concerning the rubber industry. Borneo rubber, in the white, rectangular, wet slabs in which it used to be known in England, is now rarely to be met with, the United States having been the principal market in late years. It has always been persistently adulterated by the Chinese collectors, mainly with pontianak. The degree of wetness is attributable to the fact that the natives put it under the water tap, as water, they say, prevents oxidation during transit. My friend, having passed through several years' chemical training, was accustomed to test the raw product, before buying it, in the following way: The slabs were carefully sampled down to a small bulk which was dissolved in chloroform. After standing to allow impurities to settle out the solution was poured into a flat disk and allowed to evaporate. Strips were then cut from the dried rubber and roughly tested for tensile strength with the hand. This mode of testing, although it might be improved upon, is certainly more advanced than apertains in the great bulk of rubber sales.

I WAS sorry to hear of the decease of this company, the only concern in Great Britain devoted entirely to the vulcanite manu-

SCOTTISH VULCANITE CO., LIMITED.

facture. I cannot pledge myself to the exact date of its inception, but I know it is somewhere about fifty years ago that it was founded under American auspices. The complaint from which it has died has been variously diagnosed, the company itself being emphatic that it was the "dumping" of German vulcanite in England under cost price, and something to this effect has occurred in the Scotch newspapers. A rejoinder to this comes from Mr. Winter, the well known London representative of Heinrich Traun & Sons, of Hamburg, it being averred that the cause alleged had nothing to do with it. Mr. Winter does not say what the real cause is, but his tone rather leads one to suppose that he attributes the loss of trade in some way to the management. Without wishing to join in the fray myself, I will merely say that the statement that the price of certain German made goods having been raised since the Scottish company closed its doors seems to deserve notice at the hands of the disputants. The closure of the works is of course a hardship to the hands and staff, some of the latter having been with the company over 40 years. The works are situated in close contiguity to those of the North British Rubber

Co., Limited, at Edinburgh, and it has been suggested that the latter company will probably take them over as additional premises.

[THE Scottish Vulcanite Co., Limited, was founded about 1861 under these circumstances: There had been formed in America the New York Gutta Percha Comb Co., which, though using gutta-percha for its products, was proceeded against by the owners of the Goodyear hard rubber patents and also the newer patents granted to L. Otto P. Meyer. A verdict unfavorable to the company was granted in the United States circuit court at New York May 19, 1859, after which there was a sale of the stock and machinery. The price realized is reported to have been \$25,000, and the purchaser was William Judson, the owner of the English patents to Goodyear for both soft rubber and hard rubber. Judson was one of the directors—then called "founders"—of the North British Rubber Co., then still owned wholly by American interests. The machinery referred to was shipped to Edinburgh and was the first used by the Scottish Vulcanite Co., formed through Judson's agency. It was installed by John Murphy, who had been manager of the New York Gutta Percha Comb Co. Mr. Murphy later returned to the States and for many years was active in the rubber industry, being at different times connected with some very important companies. He is now living retired, in his eighty-fourth year. At one time an interest in the Scottish Vulcanite Co. was owned by Conrad Poppenhusen, the principal licensee in America under the Goodyear and Meyer hard rubber patents, and the founder of the India Rubber Comb Co., at College Point, New York. While the Scottish Vulcanite Co. always maintained a separate corporate existence from the North British Rubber Co., a close business relation at one time existed between them, and their factories were near together, being separated only by Viewforth road, in Edinburgh. The shareholders of the Scottish Vulcanite Co. at a meeting on September 12 last confirmed a resolution "That the company be wound up voluntarily."

Regarding the suits against the New York Gutta Percha Co., above referred to, the charge was made freely at the time that the result was a collusive verdict; that is, that the defendant company consented to Poppenhusen's taking a judgment, in consideration of a certain price being paid for their factory, Poppenhusen fearing that, if the case were defended strongly, his patents might not be sustained. (See THE INDIA RUBBER WORLD, April 1, 1898—page 184.) This charge, however, was strongly resented during the trial of a subsequent suit for infringement of the same patents, brought by Poppenhusen against another New York company and won by him.—THE EDITOR.]

THE somewhat overdue annual meeting of this concern was held in the middle of October, when Sir Harry Johnston made

LIBERIAN RUBBER CORPORATION.

a full statement as to the position of affairs. From this it would appear that the trouble which has been experienced was largely of a legal nature, relating to the concessions, and that this has now been satisfactorily settled. Still the prospects of rubber production, judging by the progress already made, are by no means so rosy as predicted in the prospectus, and it is not surprising that some discordant notes were struck at the meeting. Some vengeful Nemesis seems to take an interest in Liberian rubber companies which, from that started by Mr. Meiter more than 20 years ago, have been more closely associated with disaster than with success. The contract entered into with the Dunlop company for the purchase of the output of rubber for a term of years has been modified in the interests of the cor-

poration, the chairman said, though it is conceivable that the other side do not consider themselves the losers. Some comment was made on the fact that Sir Gilbert Parker, M. P., had resigned his seat on the board. This was due, it was explained, to pressure of parliamentary duties; however, as he has just had a new novel published, these duties evidently leave him a certain amount of leisure.

I UNDERSTAND that the Penther machine, the patent rights of which for the world have been acquired, as already reported in these notes, by Mr. James E. Baxter, will shortly be in full work at the new Leyland factory. The delay has been due to the installation of high pressure boilers and high speed engines in order to minimize the cost of the power required to run the machine. In this respect there can be no doubt that the new machinery will prove much more efficient than was that originally used in Germany.

Another obituary notice calls for insertion this month. This has reference to Dansk Afvulkaniserings Aktieselskabet, the management of which Copenhagen reclaiming works, Mr. Albert Theilgaard seems to have found too much even for a man of his superabundant energy. The concern had only been in existence two or three years, and worked processes the details of which were not apparent from the patents which formed their basis. I understand that Mr. Theilgaard is now working on the Continent in the interests of a former competitor, the North Western Rubber Co., of Liverpool.

Spain, more particularly Barcelona, is reported as buying increasing quantities of reclaimed rubber, and it has been argued from this that the rubber manufacture in the Iberian peninsula is proceeding apace.

North Wales now has its rubber factory, or at least it is commonly reported to have. Inquiry, however, reveals the fact that the concern in question is by no means on an extensive scale, and that the business at the Holywell factory is limited to dealing in a certain way with waste rubber.

A RUBBER manufacturer of considerable position in the trade, who has paid close attention to Ceylon rubber, in the course of

PLANTATION PARÁ.

some remarks on the subject to me expressed his disappointment at the present state of affairs. He had been in hopes, he said, that careful cultivation and preparation would have yielded a high class rubber, but it was clear that anxiety to realize had induced planters to rush the preparation and so to reduce quality. Quantities of *not* first rate quality were now coming into the market, and this, despite its dryness, was being sold at or below the price of fine Pará. There is a ready market for all this rubber, as it is being used instead of African qualities. The above remarks, coming from an authoritative source, are important when compared with statements which have recently emanated from scientific laboratories in London where the subject of rubber has just commenced to receive attention.

THE death of Mr. George Banham removes from our midst a typical Lancashire man, and one who during the protracted lawsuit of Reddaway v. Banham, now a matter of ancient history, was a familiar figure in the precincts of the London Law Courts. Of somewhat rugged exterior, Mr. Banham was of a thoughtful and kindly disposition, which showed itself in many ways in his business dealings. The success attained by the belting works which he established in Pendleton, Manchester, are a tribute to his indomitable energy in business matters.

THE melancholy reports issued by the London companies have given a setback to ideas of fresh enterprises. Of course a good many factors have combined to prevent the success anticipated. The bad weather during the spring and summer and the over provision of carrying facilities in London have to be

considered in addition to the expense for repairs, etc., directly connected with the omnibuses. The Manchester and District company came to an early end mainly because of the opposition of inhabitants on the lines of route. At present the future of the commercial motor wagon seems much more promising. A type that is attracting some attention is the Berna commercial motor lorry of 4 to 6 cylinder and carrying one to five tons. These are made in Switzerland and have for some time been used as mail carts in that country. I understand that manufacturing firms who have goods to deliver a few miles off are not showing keenness to purchase motors for themselves, but are more disposed to pay a motor transport company to do the carrying; this is more especially the case with engineering firms who have no daily use for carts or motors. These commercial motors are fitted mainly with "twin" solid tires, such as are supplied by the Dunlop, Shrewsbury and Challiner and other companies. Reference to solid tires reminds me of the recent dictum of the London commissioner of police objecting to the use of sectional block tires on omnibuses; more will probably be heard of this, as it applies not only to omnibuses but to the freight motors which travel at about the same pace.

FROM an engineering firm largely concerned with the manufacture of plant for rubber plantations in the Malay States, I

VACUUM DRYING.

have it that there is an increasing demand for vacuum drying plant. With plantation rubber in hot climates steam raising is troublesome as well as apt to be expensive, and besides there is necessity for absolute dryness being obtained. The main facts which appear to have militated against the wider use of vacuum plant in European rubber factories are the initial cost and the amount of labor involved in charging and discharging compared with what obtains in the case of steam heated rooms.

IN connection with pumping operations in mines where the water frequently contains sulphuric acid derived from the oxidation of pyrites, a good deal of trouble has been caused by the wearing of the valves, whether made of phosphor bronze or other special alloys. In several cases such valves have been replaced by gutta-percha valves with very satisfactory results. Probably other bodies, such as rubber or Dermatine, would answer the purpose equally well. The action is not merely that the acid water dissolves the metal, but that electrolysis is set up between the dissimilar metals, i. e., the iron piping and the valve alloy, the metals being rapidly eaten away. With the use of gutta-percha the iron piping is not appreciably attacked.

ALTHOUGH, as has always been the case, engineers still find it a cause for complaint that rubber body blocks are not everlasting, their use shows no great diminution. To

BODY BLOCKS.

some extent they are being replaced by felt or cork, as possessing greater longevity, but in England at any rate vulcanized rubber is still the principal material in use by the railway rolling stock manufacturers. Perhaps it may not be superfluous to state that the body block, the object of which is of course to lessen vibration, is placed between the sole bar of the iron frame and the bottom rail of the body of the coach. The ordinary size is 5x3x1 inch, and numbers of them are used, as many as 60 being utilized in one coach of the large bogey type. Messrs. Spencer, Moulton & Co., so well known in connection with railway rubber fittings, had a patent which I believe has now expired for body blocks, but although this is one of the goods they still specialize in, it is evident that in the case of such a simple article a good deal of competition exists. The patent for Spencer's railway buffer having expired, buffers of similar make are now being made by one or two other firms. While on the subject of the Bradford-on-Avon firm, it may be mentioned that the title is now abbreviated to Messrs. George Spencer & Co., the place of Mr. Johnson, the late manager, being now filled by Mr. Sidney Spencer.

CONCERNING MOTOR 'BUSES.'

Rubber Selling Conditions in England.

UNTIL recently the India Rubber Manufacturers' Association of Great Britain has not taken cognizance of questions arising from sales of crude rubber by importers and brokers to manufacturers. But the matter of discrepancies in delivery weights has now been brought before the association, and it is understood that the members are making inquiries with the object of eventually arriving at a situation more satisfactory to buyers of rubber. There is no other association in England whose object specifically is to govern the rules of sale between rubber importers and manufacturers. Should any dispute arise, it is a matter of direct negotiation between the seller and the buyer.

There are, however, certain points upon which there is uniformity of practice in the trade, based upon the "Conditions of Sale" adopted by the Liverpool General Brokers' Association, Limited, in addition to which the London and Liverpool rubber merchants and brokers have, at various times, signed agreements regarding terms of sale supplemental to the rules of the Liverpool association. One such agreement, operative since May 1, 1901, relates to transactions in Pará, Peruvian, and Batavian rubbers. Another, in force from July 1, 1906, establishes the allowance for draft, to compensate the manufacturer for any loss in weight between the time of delivery of rubber from store and its arrival at the factory.

The situation in general is summed up thus, in a statement made to THE INDIA RUBBER WORLD by a leading firm of Liverpool brokers:

"The allowance of $\frac{1}{2}$ per cent. for draft is made to compensate the manufacturer for any loss in weight between time of delivery from store to the time at which the manufacturer receives it at his works. Generally speaking, importers guarantee weights as delivered at manufacturers' works, but the $\frac{1}{2}$ per cent. draft allowance above mentioned is taken into account before any claim is made.

"As regards the question of quality, importers—in the case of medium grades—sell on the basis of a sample, and guarantee quality delivered to be fairly represented by sample forwarded; and, in our experience, manufacturers treat this question in a very fair manner.

"As regards the date of delivery, a parcel of rubber is sold for a specified date, and the seller fails to deliver within the time specified; in the first instance it is a matter of arrangement between the respective parties, but failing an agreement (if sold under Rubber Contract rules and the General Brokers' Association rules) the manufacturer has recourse to the rules of this association, in which case the method of procedure is for each party to name an arbitrator, and the said arbitrators have power—in case they do not agree—to appoint an umpire, the decision of the majority of the arbitrators being binding on the respective parties."

The Liverpool form of contract follows:

LIVERPOOL.....190..

M.....

We have this day you the following Goods on the terms of the Liverpool General Brokers' Association, Ltd., conditions of sale:

.....

Payment Cash in 14 days less $2\frac{1}{2}\%$ (or before delivery if required).

Customary allowances. Yours respectfully,

Brokerage per cent.

On the back the Liverpool conditions of sale are printed in full. It is specified that all goods sold at public auction—as is true of much of the rubber and many other commodities imported into England—shall be considered as sold subject to these conditions.

Brokers buying or selling shall be responsible as principals unless they name their principals before concluding the contract.

Unless otherwise stated, the buyer shall have the option of taking goods bought at landing weight or reweight. When taken at landing weight draft is allowed; otherwise, it is not.

When used in reference to quality, the term "about" shall mean within 5 per cent. over or under the quality specified. When a cargo or parcel or a remnant is sold as "more or less" in quantity, the buyer shall accept the whole of such parcel or remainder.

There are rules relating to responsibility of buyer and seller, respectively, in case of accident, damage to goods, death of one of the parties, failure to fill contracts, and so on.

"Whenever it is admitted by the seller, or decided by arbitration, that the seller has failed to declare or tender goods to fulfil any contract, the buyer may close the contract, and at his option invoice back the goods to the seller at once at a price and weight to be fixed by arbitration (which price shall not be less than $\frac{1}{2}$ per cent. nor more than 10 per cent. over the estimated market value of the shipment or delivery contracted for on the day upon which the default occurs), the difference to be due to the buyer in cash in 14 days from such default."

In case of any dispute arising, the matter shall be referred to the arbitration of two members of the General Brokers' Association, one to be chosen by each party in difference, such arbitrators having power to call in another if they desire. In case these arbitrators fail to make an award, the question shall be referred to arbitrators, members of the association or not, to be appointed by the president of the association. For the purpose of enforcing any award, under such arbitration, there are rules for the reference of the matter to the courts of justice. In case either party shall be dissatisfied with an award of arbitrators, a right of appeal shall lie to the appeal committee of the association, whose award shall be final and binding upon both parties.

RUBBER CONTRACTS.

Under the agreement of May, 1901, when a parcel of rubber is sold for a specified shipment, with a guarantee of quality—other than fine or entrefine Pará—and found inferior, buyers must accept the same with an allowance, provided such allowance in the opinion of the arbitrators be not more than 3 per cent. of the contract price; but should the parcel be rejected, the seller to have the option of substituting guaranteed quality on the spot to fulfil his contract within three days.

"On contracts of 5 tons and upwards, buyers have the option of refusing tenders of less than one ton, except in completion of contract."

"In the event of a tender of fine rubber being found on inspection to contain an admixture of entrefine, the sellers shall not be required to retender same after selection, unless such admixture be 5 per cent. or over."

"Sellers and buyers may select any member or representative of any recognized firm in the Pará trade, in London or Liverpool, to act in the capacity of arbitrator."

DRAFT ON RUBBER.

The agreement below was signed by 65 London houses and 28 in Liverpool, including rubber importers, merchants, and brokers, and representatives of rubber plantation companies:

"WE, THE UNDERSIGNED, hereby agree that in all contracts made by us or on our behalf, on or after July 1, 1906, the draft upon all classes of rubber (excluding balata and allied gums) shall be $\frac{1}{2}$ per cent. taken upon the total gross sterling amount, the $2\frac{1}{2}$ per cent. discount to be allowed on the sterling amount left after deduction of such draft. For instance:

Total gross tare	5,440 lbs.								
	969								
" nett	4,471	" @	38.	2d.	.....	£1,135	0	2	
¾% draft on	£1,135	0	2		.....	5	13	6	
2½% discount on	£1,149	4	8		.....	£1,149	4	8	
						28	14	7	
						£1,120	10	1	

"This to form an additional rule to the rubber contract rules as agreed by the London merchants and brokers and the Liverpool representatives on April 18, 1901."

THE SCIENCE OF RUBBER RECLAIMING.

BY W. T. BONNER.

THE above caption possibly meets with some objection from technical workers in the field of rubber research, claiming that as yet no science is employed in this important department of the rubber industry. Admitting that their objections may to a certain extent be true, even though based upon superficial grounds, the cause may be placed to lack of knowledge of the structural formation of rubber itself. The lance of more than one of the "Knights of the test tube" have been broken against the breast of this industrial monarch of the tropical forests in their effort to wrest from its sturdy bosom the secret of its "river of life"—among whom none more valiant than the lamented Weber. However, much has been gained of great practical value to the rubber manufacturers.

It is not the writer's intention to enter into any discussion relating to the technical side of the rubber question, but to cover as well as this article will permit the subject of its re-application to its field of original use and the general methods used in its restoration.

It is generally believed, even by many manufacturers of reclaimed rubber, that if the "stock" could be *completely "desulphurized"* in their process, the resultant would approximate closely in efficiency value to the original compound previous to "curing."

Science has proved conclusively that "cured" stock can be completely *desulphurized*, but the product lacks cohesion, is dry and refractory, possessing little or no value in strength, elasticity or compounding efficiency, and it is of value solely as a bulking and resilient filler. This feature is most pronounced in the goods recovered from the purest grade of rubber goods, and is explained by the absence of low grade organic materials, such as oils, tars, waxes, and other cheap adulterants. To utilize this quality of waste as rubber, a means of fluxing had to be adopted, and, so far as the writer has been able to learn, is used in all methods of reclaiming at present. Such fluxes consist of oils, mineral and vegetable, coal tars of different density, and last, but most generally used, rosin oil.

After the rubber to be treated has been finely ground and placed in "pans" preparatory to being placed in the "heater," an amount of the fluxing agent ranging from 5 to 20 per cent. of the rubber is carefully mixed with it in the pans. Then the mass is placed in the heater and direct steam ranging from 60 to 100 pounds per square inch is applied from 12 to 24 hours. The oil is *supposed* to enter the rubber and soften *all* of it, but such is not the case. The molecule of rubber has a most wonderful absorbing capacity for oils, but does not chemically combine. A small percentage of the rubber, not exceeding double the percentage of oil used, unite by absorption with the oil, greatly adding to volume, binding together by oil saturated fibers the still inert *greater* per cent. of "reclaimed rubber." Its ability to be milled into sheets only comes from the binding qualities of the oil saturated portion of the material.

By subjecting the majority of samples of reclaimed rubber on the market to-day to acetone and removing all fluxing material the rubber becomes a dry powdery mass, possessing but little additional value to its state before reclaiming. That the rubber

so saturated with oil has a value is of course without question, but it is also true that if some means of constant agitation could be used during the process of reclaiming, the value of the shoddy would almost be doubled.

After the fact becomes apparent that even if "cured" rubber can be perfectly desulphurized and yet not assume its former proportions, the researcher naturally asks "What has happened to the rubber by its temporary association with sulphur?" The writer will not advance a theory of vulcanization, feeling that he has a good one. But the fact remains that, in spite of desulphurizing, unless a flux is used the reclaimed rubber is dry and refractory to rubber requirements.

Rubber has been placed by the men of science under the roof tree of that great family known as hydrocarbons, whose lines, however, are as plainly drawn as "Mendileff's Table of Elements," ranging from anthracite coal to natural gas, embracing comprehensively the whole field, yet yielding none bearing the least *physical* semblance to their adopted relative.

In summing up the work done by the writer, together with some practical tests included, the following deductions are drawn: That the absorption and permanent retention of hydrogen by sulphur from the many complex bodies forming the structural part of rubber leaves the rubber after desulphurizing in a dry and refractory state. Consequently the problem involved is to restore synthetically a sufficient quantity of hydrogen chemically combined with the rubber, and restore it as nearly as possible to its former crude condition, and proving its permanency by the acetone test.

The writer has succeeded in accomplishing nearly all of the above requirements, as well as "recovering" the stock twice over, with an efficiency double any other products examined. He hopes to give further and complete details in another paper. Appended is a simple series of practical tests that ought to be of service to the reclaimer of rubber in his daily business.

For comparing the value of recovered rubber as against the original product by any process for reclaiming:

First. Compound any given quantity of rubber with usual ingredients to obtain a product of a certain desired standard of efficiency. After curing, submit product to the tests required, making careful note of the same for a record of comparison.

Second. After completing tests as above, reduce the product to powdered form suitable for devulcanizing or reclaiming, as is required in all processes. After reclaiming, dry and "mill" the stock as in the usual manner.

Third. Make of the recovered goods, without addition except sufficient sulphur, the same product or object as first made, and cure as usual. Then submit the finished product to the tests as used in the first finished material. The difference in the standards of the original and the recovered is the percentage of efficiency by comparison between the original and the recovered products, provided a proper cure has been effected.

The above is an extremely simple method by which any process of reclaiming rubber can be kept to its highest point of efficiency, while the test can be farther advanced by repeating the operation upon the same product as many removes as desired.

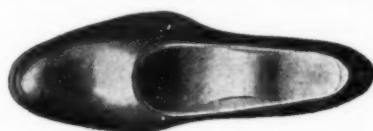
TIRES AND SEWING THREAD.—The increased price of spool cotton is now blamed on the automobiles. At least, the explanation, according to one man identified with the spool cotton business, lies in the fact that a big part of the cotton most suitable for thread manufacture now goes into the making of automobile tires, the demands of the latter having greatly raised the prices to the thread people.

THE Anglo-Malay Rubber Co., Limited, announce an *interim* dividend of 10 per cent. The entire dividend last year was 18 per cent. Recent quotations, £5 17s. 6d. to £6 for fully paid £1 shares.

New Rubber Goods in the Market.

THE "FAIRFAX" RUBBER.

SOMETHING new in rubber overshoes is the "Fairfax," which is quite as natty as anything need be in the line of rubber footwear. Its appearance just now is in answer to a demand for something to be worn over the prevailing style of



THE "FAIRFAX."

shoe, which has the Cuban heel and narrow toe. Many ladies have found much discomfiture in that the ordinary rubber has failed to meet every requirement of the peculiar cut of the popular last. The "Fairfax" is made mainly in SS width, both in cloth and rubber shoes. The former will be found especially desirable for the coming days of cold when a well protected foot insures comfort and health. Their particularly close and smooth fit gives them the final touch of completeness. [American Rubber Co., Boston.]

VICTOR BOW SPREADER.

THIS device is designed to prevent chafing, bending, and breaking of bows when the auto top is down. These spreaders do not allow the top to crush down entirely, and because of this the top and lining are prevented from rubbing, and friction is minimized. This is a very important feature, and their use is said to save the cost of the spreaders many times. Another point to be considered is that of jar, shaking, and rattling, which are also lessened appreciably. The shape of the spreaders is such that they will fit and hold any size bow, and they are the proper thick-



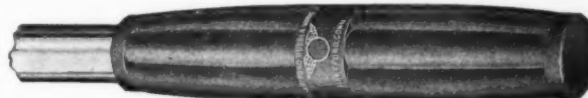
VICTOR BOW SPREADER.

ness to keep the top from crushing down. Their size is $1\frac{1}{4}$, $1\frac{3}{4}$, $2\frac{1}{2}$ inches. The illustration shows one-half the set and shows it as furnished regularly for a four bow top. More or less rubbers for a three or five bow are also furnished. In construction it is made of a number of sections of pure, new rubber with a neat strap running through and is extremely simple to use. All that one has to do is to unbuckle the strap, pull the loose end through the flat opening in the end of the rubbers, spread the loose ends of the rubbers and push them between the bows, run the strap through again, pull it hard and buckle tight. When not in use it can be tossed into the tool box or under the seat. These can be had in natural rubber with 24 inch russet strap, solid brass buckle with black strap, also japanned with black or russet strap. [Victor Rubber Co., Springfield, Ohio.]

HARTFORD "ROUGH RIDER" GRIP.

A NOVELTY which doubtless will be appreciated by motor cyclists is the "Rough Rider" grip, illustrated herewith. It is nothing more nor less than a pure flexible extension for the regulation handle bar grip. It is made of rubber, of course, but is twice the length of the ordinary grip, the added length projecting

beyond the handle bar proper, thus affording a firm but flexible hold for the rider. The "Rough Rider" grip enables the driver to do away with all the jar and jolt heretofore felt by the wrist when driving with the hands on the regulation grip. Although very flexible, the "Rough Rider" cannot come off the bar until



"ROUGH RIDER" MOTOR CYCLE GRIP.

the driver is willing, and its makers say that it will live as long as the motor cycle itself. Its simplicity and low cost, combined with the satisfaction which it seems to give, are calculated to make it very popular. [The Hartford Rubber Works Co., Hartford, Connecticut.]

A NEW SPECIALTY IN RUBBER FABRICS.

MR. L. J. MUTTY, who for many years was with the Cable Rubber Co., and later the owner of the L. J. Mutty Co., in Boston, has developed a large business in the line of special fabrics for the automobile trade such as tops, robes, and the like, with a specialty that is his own creation and that has been very successful. That is the manufacture of high grade calendered rubber cloths for automatic pianos. The "player piano" is something for which there is a very large market. There are in the United States alone probably 100 manufacturers of this instrument. One part of the mechanism called for a disc which

formerly was made of skived leather.

It was, however, unsatisfactory, as it was always too thick and often hardened. Mr. Mutty evolved the idea that fine calendered cloth would do the work and he was successful and has succeeded in wholly displacing leather and other substances. This cloth is made up in various colors and of various fabrics. The finest grade, however, is done on silk, and is by actual measurement only 3-1000 of an inch in thickness. Of this the silk is only 3-2000 of an inch in thick-

ness, and the rubber 3-2000 of an inch. This is probably the thinnest calendered work that has ever been done, and indeed it is what many factories that do good work would consider impossible. It is necessary that the stock be calendered rather than put on with a spreader, as the "player piano" oftentimes is sold to go to the tropics and rubber that has ever been in solution perishes sooner than that which has not. The L. J. Mutty Co., by the way, have now a new location at No. 28 Summer street, Boston.

THE KING GOGGLETTE.

THE gogglette illustrated here is called the No. 2, it being an improved type of the one brought out by Mr. King last year. The frame is made of aluminum in an elliptical form, while small louvers are formed along the edges to give ventilation. This feature prevents the fogging of the lenses. The lenses may be detached for cleaning or replacement, the inner steel frames upon which are mounted the pneumatic rubber cushions making this feature possible. These cushions fit the face closely, excluding wind and dust. The steel inner frames are made to spring into the aluminum outer frames and hold the lenses securely, and the two parts of the frame are connected by a chain which may be

readily adjusted to fit the face. The inner frame is released with the utmost ease, a simple pressure upon the ends of the lenses causing the inner frames to drop out and the lenses with them.



THE KING GOGGLETTE.

Smoked or amber colored lenses may be had to take the place of the usual white ones which are supplied and the makers also furnish ground lenses to prescription. [The Julius King Optical Co., No. 48 Maiden lane, New York.]

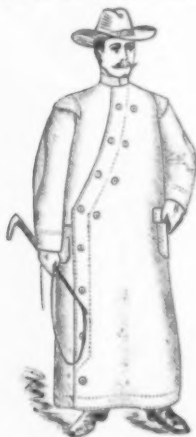
POMMEL SLICKERS.

SAWYER'S "Excelsior" brand of Pommel Slickers is so designed



POMMEL SLICKER AS A RIDING COAT.

as to afford full protection to both rider and saddle from the hardest storm. It is also easily converted into a walking coat. When used as a riding coat the extensions in front and back of the coat fully cover the saddle, fitting closely to the back of the horse, thereby insuring a perfectly dry seat for the rider. The skirts of the coat are made very wide and furnished with buttons near the bottom, which may be fastened around the ankle, thus taking the form of leggings. [H. M. Sawyer & Son, East Cambridge, Massachusetts.]



POMMEL SLICKER AS A WALKING COAT.

HARD RUBBER PEN.

A PATENT has been granted to J. Schuchmann, of Chicago, for a hard rubber or celluloid pen that may be cut and trimmed by means of a knife. It is formed with the barrel fitting the holder, and with the usual form of split point. In the barrel and in a recess in the holder is a bent flat wire retaining an absorbent, such as cotton waste, loose cotton, etc., the terminating point of the wire bearing against the pen point so as to feed the ink thereto as required when the pen is in use. "By a modification the flat wire is replaced by twisted wire in which the absorbent is held. When the pen is dipped in the ink the absorbent takes up a large supply. The chief claim that this pen will have upon popular use is in its non-corrodible qualities.

THE "NESTHILL" BALL INFLATOR.

A CONVENIENT outfit for the repairer or the devotee of tennis this little outfit has proved. Any novice can use it with most satisfactory result, and the shortest possible time is required in

which to inflate a ball that has become soft after long usage. The outfit consists of an inflator which is in the form of a nickel-plated air pump with a tubular needle; in addition there

is a plugging awl, with chalk, repairing rubber, and bottle for mineral naphtha. The first step to be taken when using this outfit is to find the plug of the ball, and this is really the one difficult thing to do. Especially in the case of tennis balls the

plug is not easily discernible, and when this is the case the process is hastened by putting the ball in water, when the weight of the plug makes the ball float with the plug at the bottom. After this is found it should be pierced by the needle point of the inflator which has been previously dipped in the liquid naphtha. With a stroke or two of the pump the ball is sufficiently inflated, and the needle is withdrawn, the finger being placed for a moment over the aperture thus made that the air may not escape. The naphtha left by the needle in the puncture causes the edges to adhere, but in order to make a permanent seal a tiny piece of the repairing rubber about as large as the head of a pin is dipped into the naphtha and pressed into the hole on the blunt side of the awl. And this is the whole story. [Ernest H. Hill, Limited, 56, Broomhall street, Sheffield, England.]

GILBERT'S ICE CREEPER.

THE accompanying illustration shows one of the most practical of devices in its line. As can be seen, it is simple to a degree and can be very quickly put on or off. Further than that, it is virtually indestructible. The very easy adjustment may serve to make this ice creeper more popular than ice creepers have heretofore been, for the added safety it gives is a factor to be considered. The fact that it can be worn and adjusted with equal facility over leather shoes or rubbers gives it additional prestige. This article is patented. [The E. T. Gilbert Manufacturing Co., Rochester, New York.]



GILBERT'S ICE CREEPER.

SHAVADE RUBBER.

A SIMPLE little device for a shaving outfit made of rubber and fits the handle of an ordinary shaving brush, or it can be procured with its own handle. In using it one simply applies the lather and rubs it in with the Shavade. This can be done more quickly and effectually, it is claimed, than with the hand, and at the same time the face is thoroughly massaged. The result of the massage thus afforded is to open the pores, soften the beard, and make possible a smoother shave than otherwise. The Shavade is not of necessity confined to the shaving outfit, for it can be used with equally beneficial results for massaging purposes for ladies. A patent has been applied for by the Sampson Appliance Co., No. 149 Church street, New York.



SHAVADE.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED OCTOBER 1, 1907.

- N**O. 867,247. Vaginal syringe. W. G. Cronkright, Pittsburgh, Pa.
 867,265. Hose rack. T. W. Forster, Hackensack, N. J.
 867,299. Check valve. A. J. Pfluger, assignor of one-third each to C. Boetcher and E. H. Kloehn, all of Brillion, Wis.
 867,445. Syringe. J. H. Thayer, assignor to E. Hilker, both of Chicago.
 867,464. Pneumatic sleeping bag. T. A. Abbott, assignor of one-half to Metropolitan Air Goods Co., both of Reading, Mass.
 867,474. Device for inflating tires. R. H. Campbell, assignor to Aerators, Ltd., both of Edmonton, England.
 867,515. Tire protecting device. L. H. Kinnard, assignor of one-half to R. S. Chamberlin, both of Harrisburg, Pa.
 867,552. Means for fastening tires to wheel rims. A. N. Bradford, Sterling, and W. H. Holden, Rock Falls, Ill., assignors to Russell Burdsall & Ward Bolt and Nut Co., Port Chester, N. Y.

Trade Marks.

- 25,525. The Faultless Rubber Co., Akron, Ohio. White shield on the surface of which is a calla lily and over this, partially covering it, a letter F on a black background. The word *Faultless* appears over the shield. For balloons, balls, and bladders.
 25,526. *Same*. The above design, for air pillows and cushions, bath caps, finger cots, gloves, mats, mittens, sheeting, sleeves, soap trays, sponges, sponge rubber, test tube caps, etc.
 25,527. *Same*. The above design for druggists' sundries.

ISSUED OCTOBER 8, 1907.

- 867,588. Rim and tire construction for vehicle wheels. M. P. Morrison, Atlanta, Ga.
 867,600. Vehicle tire. A. D. Ray, Cleveland, Ohio.
 867,614. Wheel [with solid tire]. B. C. Seaton, St. Louis.
 867,616. Pump [for inflating tires]. S. G. Skinner, Chicago.
 867,637. Process of making flooring and the flooring itself. [Rubber tiling.] G. H. Bennett, New York city.
 867,710. Wheel [with rubber tire]. W. Eichers, Minneapolis, Minn.
 867,717. Tire covering. G. R. Eukers and R. H. Atcheson, Chicopee, Mass.
 867,722. Washboard [faced with rubber]. G. C. Haysler, Clinton, Mo.
 867,737. Hard rubber substitute and process for making the same. C. Marter, London, England.
 867,752. Pipe or hose coupling. J. H. Phillips, Jr., Jackson, Mich.
 867,756. Elastic tire. J. W. Rock, Akron, Ohio.
 867,827. Inhaler. J. H. McCulloch, Newville, Pa.
 867,830. Dress shield. Margaret H. McMann, New York city.
 867,851. Automobile tire. G. C. Sullivan, Buffalo, N. Y.
 867,882. Rubber overshoe. [Described in THE INDIA RUBBER WORLD, November 1, 1907—page 56.] F. C. Hood, Boston.

Trade Marks.

- 28,692. Dunham Brothers, Brattleboro, Vt. The word *Waukeezey*. For rubber heels.
 29,253. E. Faber, New York city. The word *Comet*. For rubber erasers.

ISSUED OCTOBER 15, 1907.

- 867,966. Marine life saving apparatus. C. Fuchs, Meiringen, Switzerland.
 867,988. Armor for tires. C. P. Mays, Washington, D. C.
 868,047. Vehicle wheel. [An inner and an outer wheel, having a rubber tire between.] G. S. Whiteley, Baltimore, Md.
 868,054. Cushion heel. J. Witkowski, San Diego, Cal.
 868,079. Tire for wheels. H. B. Ewbank, Jr., assignor to H. A. Taylor, both of New York city.
 868,135. Overshoe. S. Schwarzschild, Rochester, N. Y.
 868,136. Packing [with elastic core]. J. W. Shields, Hubbell, Mich.
 868,200. Door stop. O. T. Lucas, Neodesha, Kans.
 868,207. Resilient tired wheel for automobiles and other vehicles. A. C. Monfort, Providence, R. I.
 868,216. Cushion tire. W. D. McNaul, Toledo, Ohio.
 868,242. Puncture closer. D. Apstein, Bridgeport, Conn.
 868,243. Puncture closer. *Same*.
 868,311. Hose coupling. C. T. White, Niles, Mich.
 868,450. Nozzle for vaginal syringe. S. L. Kistler, Los Angeles, Cal.
 868,480. Tailor's dummy. J. Ramb, Berlin, Germany.
 868,484. Composite boot and shoe. H. C. Richardson, Haverhill, Mass.
 868,522. Massage implement. A. Barker, Philadelphia.
 868,532. Rotary operating member for boot and shoe finishing machines [having sponge rubber cushions]. W. W. Crooker, Lynn, Mass.
 868,567. Holder for overshoes. N. P. Jensen, Ephraim, Utah.
 868,611. Vehicle wheel. W. J. Mitchell, Pittsfield, N. H., and J. R. Mitchell, Templeton, Mass., assignors to Mitchell Punctureless Tire Co., Swampscott, Mass.

Trade Marks.

- 22,675. The B. F. Goodrich Co., Akron, Ohio. The initial G within a wreath. For druggists' sundries.
 The Hartford Rubber Works Co., Hartford, Conn. The following for marking the kind of goods specified:
 26,459. No. 50. Rubber wheel tires.
 26,460. No. 50-T. T. Rubber wheel tires.
 26,461. No. 70. Rubber wheel tires.
 26,462. No. 75. Rubber wheel tires.
 26,464. No. 77-H. Rubber wheel tires.
 26,465. No. 77-E-H. Rubber wheel tires.
 26,466. No. 80. Rubber wheel tires.
 26,468. No. 80-E-H. Rubber wheel tires.
 26,470. The word *Thorn*. Rubber wheel tires.
 26,472. A winged tire. Rubber wheel tires.
 27,320. The H. O. Canfield Co., Bridgeport, Conn. The word *Canfield* describing a half circle. For rubber valve balls, rubber bulbs, rubber furniture bumpers and other mechanical goods.
 29,427. Bourn Rubber Co., Providence, R. I. A circle enclosing the words *Pine Knot*. For rubber boots and shoes.
 29,737. The Mona Mfg. Co., Boston. The word *Mona*. For dress shields.

ISSUED OCTOBER 22, 1907.

- 868,668. Process of making hollow rubber articles having seams. I. F. Kepler, assignor to The B. F. Goodrich Co., both of Akron, Ohio.
 868,732. Press for vulcanizing pneumatic tires. A. E. Vincent, Noisy-le-Sec, France.
 868,914. Cork for stoppering bottles. H. W. Dawson, Portalegre, Portugal.
 869,066. Apparatus for testing miners' safety lamps. E. C. Davies, Taylor, Pa.
 869,177. Waterproof garment. B. C. Hathaway, Boulder, Ill.
 869,190. Swimming appliance. C. H. Matter, Pittsburg, Pa.
 869,191. Dental plate. G. W. Morgan, Salem, Va.
 869,193. Flexible wheel for motor vehicles. H. F. Nichols, Adelaide, South Australia.

Trade Marks.

- 29,537. Hood Rubber Co., Boston. The picture of an arrow tip. For rubber footwear and rubber tires.

ISSUED OCTOBER 29, 1907.

- 869,262. Aspirator. E. Pynchon, Chicago, assignor to The De Vilbiss Mfg. Co., Toledo, Ohio.
 869,321. Insulating material and method of manufacturing. R. Müller, Munich, Germany.
 869,618. Artificial rubber. W. H. Brownlow, Brockville, Ontario.
 869,642. Hoof expanding pad. C. D. McAfee, Burgettstown, Pa.
 869,662. Hose coupling. C. F. Snyder, assignor of one-eighth to J. P. Murray, both of Allegheny, Pa.
 869,764. Heel for boots and shoes. [See THE INDIA RUBBER WORLD, July 1, 1907—page 318.] W. G. Anderson, assignor to N. S. Anderson, trustee, both of Brookline, Mass.
 869,838. Horseshoe. G. M. Green, Denver, Col., assignor of one-half to W. T. Green, Tampa, Fla.

Trade Marks.

- 24,419. Consolidated Rubber Co., Trenton, N. J. Floral design. For rubber fruit jar rings.
 28,064. Morgan & Wright, Detroit, Mich. The word *Atlas* in semi-circle. For rubber hoof pads.
 29,062. The Fairbanks Co., New York city. Red disk bearing the words *Fairbanks Friction Brand*. For rubber belting.
 29,112. The M. Lindsay Rubber Mfg. Co., New York and Washington. Likeness of Charles Goodyear with fac simile signature. For druggists' sundries.
 29,183. Pacific Coast Rubber Co., Seattle, Wash. Light and heavy circle enclosing the word *Eureka*. For rubber footwear.
 29,184. *Same*. Light and heavy circle enclosing the word *Ribano*. For rubber footwear, gloves, etc.
 29,399. Morgan & Wright, Detroit, Mich. Two circles in double outline enclosing the firm monogram. For rubber hose, packing gaskets, etc.
 29,407. Fabric Fire Hose Co., Sandy Hook, Conn. Shield and arrow; shield bearing the words *Fabric Fire Hose Co.* on twisted hose, the whole enclosing a tiger's head. On the bottom of the shield the words *New York*. For rubber hose and fabric hose.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1906.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 25, 1907.]

- 12,454 (1906). Process of reclaiming or repairing old rubber and altering in shape newly manufactured rubber. T. Gare, New Brighton.
 *12,501 (1906). Single tube pneumatic tire. J. A. Swinehart, Akron, Ohio.
 *12,525 (1906). Process for reclaiming waste rubber. A. J. Boulton, Hatton Garden, London. (W. A. Kōneman, Chicago, Illinois.)
 *12,526 (1906). Process for reclaiming waste rubber. Same.
 *12,527 (1906). Process for reclaiming waste rubber. Same.
 12,550 (1906). Noiseless heels for clogs. R. Binnall, Rochdale.
 12,593 (1906). Means for connecting inflater to a tire valve. S. F. Nichols, Blackheath.
 12,631 (1906). Non-slipping pneumatic tire. W. S. Smith, Middlesex, and W. H. Edwards, Walthamstow, Essex.
 *12,633 (1906). Hard rubber pen. J. Schuchmann, Chicago, Illinois.
 12,751 (1906). Non-skid cover for pneumatic tires. R. P. Houston, London.
 12,781 (1906). Non-skid studs for pneumatic tire treads. W. Eastwell, London.
 *12,808 (1906). Spring wheel with rubber tread band. E. B. Sims, Western, Nebraska.
 12,854 (1906). Felloe with attachable flanges for elastic tires. J. May, Glasgow.
 12,869 (1906). Toy. A. Forbes, Leeds.
 12,912 (1906). Spring wheel with resilient hub embracing rubber. A. E. J. Smith, Battersea, London.
 12,927 (1906). Inflating apparatus for life belts. C. Fuchs, Meiringen, Switzerland.
 12,963 (1906). Rollers for textile manufactures. F. Reddaway, Pendelton, Manchester.
 *13,045 (1906). Pipe joint, involving the use of vulcabeston. E. E. Gold, New York city.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 2, 1907.]

- 13,088 (1906). Golf ball [with rubber core inflated with air]. R. McGarva, Shandon, Dumbartonshire.
 13,171 (1906). Pneumatic tire, with protective tread. O. Tailfer, Alexandria, Ontario, Canada.
 13,282 (1906). Pneumatic tire with emergency air tubes. H. B. Vinton, Ramsgate, Kent.
 13,323 (1906). Spring wheel with solid rubber tire. J. and W. Horton, both of Woodside Iron Works, Salterhebble, near Halifax.
 13,328 (1906). Mandrel for forming rubber nipples for nursing bottles. F. W. Ingram and A. Shepard, both of Forest Gate, Essex.
 13,459 (1906). Bathing cap. M. Annenberg, Islington, Middlesex.
 *13,478 (1906). Solid rubber tire. A. J. Boulton, Hatton Garden, London. (J. A. Swinehart, Akron, Ohio.)
 *13,493 (1906). Apparatus for the steam vulcanization of tire covers. E. Hopkinson, New York, and T. Midgley, Hartford, Connecticut.
 13,571 (1906). Gas engine fitted with reciprocating pump for inflating rubber tires. L. Serne, E. E. Pither and R. E. Pither, all of London.
 13,611 (1906). Spring wheel with elastic tire. F. Andrews, Southend-on-Sea.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 9, 1907.]

- 13,672 (1906). Tire having the ordinary air tube replaced by a series of helical springs. G. H. C. Allié, Paris, France.
 13,702 (1906). Tire of helical springs enclosed in a rubber envelope. J. P. Holdinott, Aston Somerville, Gloucestershire.
 13,707 (1906). Single or multiple solid tires and rim with special flanges. W. B. Hartridge, London.
 13,746 (1906). Folding bath. A. W. Gamage, London.
 13,789 (1906). Air pump for motor vehicles. H. M. Domecq-Cazaux, Paris, France.
 13,913 (1906). Fibrous or elastic sheets for matting. C. Wissenbach, Frankfurt-on-Main, Germany.
 *14,021 (1906). Pneumatic tire with supplementary air tube. H. S. Rodgers, Cincinnati, Ohio, and J. D. Prince, New York city.
 *14,022 (1906). Pneumatic tire cover with flat tread. Same.
 14,154 (1906). Pneumatic tire. A. Gerlach and Continental Caoutchouc und Guttapercha Cie., Hanover, Germany.
 14,241 (1906). Toy. [Diabolo.] G. Philippart, Paris, France.
 14,257 (1906). India-rubber valves. O. Lindemann, London. (Communicated from Germany.)
 14,284 (1906). Golf ball. F. W. Mottershaw and C. Macintosh & Co., Ltd., both of Manchester.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 16, 1907.]

- 14,314 (1906). Corrugated wrappers for packing bottles. F. M. T. Amherst, Diddington Hall, Norfolk.
 14,328 (1906). Spring wheel with solid rubber tire. J. Slee, Newton-le-Willows, Lancashire.
 14,338 (1906). Tire formed of a core wrapped with elastic cords and a cover. C. King, Brentford.

- 14,351 (1906). Friction clutch, lined with elastic friction material. H. Baumgartner-Mica, Basel, Switzerland.
 14,354 (1906). Device for indicating the presence of stones or other bodies on tires. C. C. Regnart, London.
 *14,372 (1906). Pneumatic tire with anti-skidding cover. L. Slama, Humboldt, Nebraska.
 14,395 (1906). Substitute for ebonite. C. Marter, London.
 14,417 (1906). Hose reel. W. H. Freeman, Small Heath, Birmingham.
 14,431 (1906). Spray producer. R. F. Venner, Westminster, and A. W. Brown, London.
 14,551 (1906). Solid rubber tire with protector plates. W. T. Smith, Bolton.
 14,610 (1906). Horsehair fabrics treated with rubber solution. T. Ehniger and R. Panke, Kirchheim unter Teck, Germany.
 *14,621 (1906). Rubber type. W. H. Wheatley, London. (L. R. Blackmore, Arlington, New Jersey.)
 *14,624 (1906). Machine for vulcanizing rubber boots and shoes. M. C. Clark, Providence, Rhode Island.
 14,645 (1906). Solid rubber tire with canvas or metal insertion. C. Challiner, Manchester.
 14,698 (1906). Inhaler or vaporizer. Dresden, Germany.
 14,802 (1906). Tire having leather tread and rubber or metal springs. H. E. Walters and W. H. Woodstock, Westminster, Middlesex.
 14,802A (1906). Tire tread. Same.
 14,848 (1906). Detachable rim for pneumatic tires. J. Burnam, London.
 14,883 (1906). Hot water bag. Leyland & Birmingham Rubber Co., Leyland, near Preston, and W. Timperley, Leyland.
 14,896 (1906). Apparatus for waterproofing fabrics. A. E. Vincent, Paris, France.
 *14,930 (1906). Spring wheel having the body and rim portions spaced by rubber blocks. I. W. Giles, New Bedford, and C. W. Tobey, Fairhaven, both in Massachusetts.
 14,954 (1906). Spring wheel with metal tread supported on rubber cushions. S. J. Williams, London.
 *14,966 (1906). Vaginal syringe. J. J. Brin, Chicago, Illinois.
 [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 23, 1907.]
 14,983 (1906). Revolving heel protectors. F. W. Farr and Vertex, Ltd., Cogenhoe, Northampton.
 15,006 (1906). Elastic tire of springs and rubber. G. Monnig, Berlin, Germany.
 *15,018 (1906). Cushion tire. E. Kempshall, Boston, Massachusetts.
 15,040A (1906). Puncture repair press. D. W. Freeman, Finningley, and W. Pennington, Bawtry, both in Yorkshire.
 15,054 (1906). Protective cover for pneumatic tires. V. P. Khan Kitabgi, Surbiton, Surrey.
 *15,062 (1906). Rubber compounds. F. M. Ekert and C. C. Hooven, both in Dayton, Ohio.
 15,080 (1906). Bulb for filling pens. W. Smith, Brecon.
 15,280 (1906). Tire inflater. B. M. Drake and J. M. Gorham, London.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 375,354 (Mar. 4, 1907). Magnin et Leborne. Pneumatic harness pads.
 375,428 (Mar. 6). P. E. Doolittle. Pneumatic tire.
 375,442 (Mar. 7). Rippert et Schmitt. Device for fastening tires.
 375,508 (Feb. 18). Bernot y Ballart. Pneumatic cushion.
 375,551 (Mar. 9). Société des Fabriques Russes Francaises "Prowodnick." Antiskid tire protector.
 375,568 (Mar. 9). G. G. Eranney. Spring wheel.
 375,600 (Mar. 11). J. Dorange et P. Buchillet. Antiskid tire.
 375,617 (Mar. 12). Société Hollandsche Maatschappij tot Hetmaker van Werken in Gewapend Beton. Process for recovering cables.
 375,657 (Mar. 13). Société Leger et Lailoult. Removable rim.
 375,717 (Mar. 14). F. J. Harden. Tire improvement.
 375,547 (Mar. 9). G. Bieron. Reclaiming rubber.
 375,643 (Mar. 13). H. Bubenheim. Rubber drying process and apparatus.
 375,678 (Mar. 13). Harvey Frost & Co., Ltd. Vulcanizer.
 375,799 (Mar. 15). J. Slée. Elastic tire.
 375,709 (May 21, 1906). Rouxeville. Reclaiming rubber.
 375,865 (Mar. 18, 1907). A. Lombardy. Elastic tire.
 375,893 (Mar. 19). A. A. Marchet. Pneumatic tire.
 375,920 (Mar. 20). Société Atreros. Pneumatic tire.
 376,010 (Feb. 20). F. Comte. Antiskid tire protector.
 376,153 (Mar. 27). H. Boulanger. Antiskid tire.
 376,161 (Mar. 27). E. Martin. Antiskid tire.
 376,180 (Mar. 28). Drury et Medhurst. Improvement in tires.
 376,254 (Mar. 18). Marmonier. Spring wheel.
 376,345 (Apr. 3). J. Borderel. Removable rim.
 376,507 (Apr. 6). A. Manson. Fastening pneumatic tires.
 375,799 (Mar. 15). J. Slée. Elastic tire.
 376,258 (Apr. 8). L. Babert. Antiskid tire.
 376,530 (Apr. 8). A. Rickli. Removable rim.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counsel, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

Rubber Shoes in Interstate Commerce.

A RECENT decision in one of the federal courts, growing out of litigation between two firms in the rubber trade, is likely to have an important bearing upon the question of the rights of a corporation under the laws of one state to engage in trade in other states. Briefly, the case is this: The United States Rubber Co., a corporation of New Jersey, consigned large supplies of rubber footwear to The Butler Brothers Shoe Co., a corporation of Colorado, at Denver, and later brought suit under its contract to secure payment for the goods. In the United States circuit court at Denver a decree was entered in favor of the United States Rubber Co., ordering the payment by the defendants of \$52,779.83. The case was carried by the latter to the United States circuit court of appeals, and had a hearing at St. Paul, where, on October 25, an opinion (by Circuit Judge Sanborn) was filed, confirming the decree of the circuit court.

The chief objection of the defendants in the original case to the decree of the court was that the contracts upon which the United States Rubber Co. sued were illegal, and therefore void, because the complainant was a foreign corporation and it carried on business in the state of Colorado without a license, in violation of the statutes of the state. The constitution and laws of Colorado—and of many other states as well—prohibit any foreign corporation from doing any business, acquiring or holding any property, or prosecuting or defending any suit in the state, unless it has first filed certain papers with and paid certain fees to the state authorities, and named an agent within the state who can sue or be sued. These regulations the United States Rubber Co. had not complied with, which fact was relied upon by the defendants to estop any action at law by the rubber company. Further, the counsel for the Denver firm argued that the rubber company had an adequate remedy at law in the state courts, and denied the right of the company to resort to the federal courts.

The decision of the circuit court of appeals, which is voluminous, reviews the questions above stated in great detail, reviewing many former decisions by the United States circuit courts and by the supreme court that are pertinent to the case.

An early decision by the supreme court was that a state might exclude the corporation of another state from its jurisdiction, or regulate its admission, and that corporations are not within the clause of the constitution of the United States which declares that "the citizens of each state shall be entitled to all privileges and immunities of citizens in the several states." But the broad statement that a state may restrict the action of foreign corporations has been qualified by many later decisions, as new questions have arisen from time to time, with the result that Judge Sanborn holds in the decision here under review:

"Every corporation empowered by the state of its creation to engage in interstate commerce may carry on that commerce in sound and recognized articles of commerce in every other state in the Union. Every prohibition, obstruction or burden which the other states attempt to impose upon such business is unconstitutional and void."

The principle involved is, in brief, that whereas every state may regulate business carried on wholly within its own borders as it may see fit, commerce carried on between citizens (or corporations) of two or more states is interstate commerce, and as such is subject to regulation only by congress, as provided in the constitution of the United States. The constitution of the United States and the acts of congress in pursuance thereof being the supreme law of the land, Judge Sanborn held that the constitution and laws of Colorado should be read in the light of this fact, and that the real intention of the Colorado

statutes was to apply only to corporations and their acts which did not engage in or constitute interstate commerce. A large part of the decision, therefore, was devoted to defining interstate commerce.

Judge Sanborn also held that any corporation in any state has the right to bring or defend suits in the federal courts and to remove suits to them from the state courts, but this point will not be further noticed here.

In holding that the United States Rubber Co., in the Colorado case, was engaged in interstate commerce, and not merely carrying on business within that state, the decision reads:

"Let us now turn to the contracts, observe what the Rubber Company agreed to do and what it actually did under them, and determine, if possible, whether or not in making, or in performing these agreements it was guilty of doing any business within the meaning of the constitution and statutes of Colorado. It agreed to ship the goods from its warehouse, or its mill, upon the orders of the appellee, to that Company in Denver, and it did so. It contracted to do, and it did nothing more. It never had any office or place of business in Colorado; it never received, stored, handled or sold any goods, or collected any money for the sales of any goods in that state under this contract. It never incurred, assumed or paid any expenses of doing all these things, or of conducting any of the business. The Shoe Company had and maintained a place of business in Colorado, it rented or owned the place in which the business in Colorado was done, and it agreed to bear all the expenses and losses of receiving, storing and selling the goods and it did so. The purchasers of the goods were purchasers from it, solicited and secured by it. They were its customers and liable to it for the purchase price of the goods. The goods were billed to them in the name of the Shoe Company as consignee. The profits of the business and the work of the business, the labor of receiving, storing and selling the goods were the Shoe Company's. The profits constituted its factorage, its compensation for carrying on the business."

"There is no question here between the state and the Shoe Company, or between the Shoe Company and the purchasers of the goods, or between the Rubber Company and the purchasers of the goods. The question here is between the consignor and the factor, and it is whether the consignor, which did not agree to do, and did not, in fact, do the business of receiving, storing and selling these goods, or the factor who did contract to do and did actually do the business of receiving, storing and selling these goods, in Colorado, and who received the factorage therefor, was doing that business. In a simple transaction the true answer seems clear. A farmer sends to a commission merchant in a city a dozen barrels of apples for him to sell. The factor puts them in his store, sells them, receives the proceeds and remits them less his factorage. The farmer from time to time sends a thousand barrels during the season, and they are sold and the proceeds are remitted in the same way. The farmer is not carrying on the business of selling apples in the city, but the factor is. The transaction in hand is larger, but in every element which conditions its legal character and effect it is not different. The transaction between the parties to this suit was interstate commerce. The Rubber Company did not agree to do, and did not actually do, any business of receiving, storing and selling the goods in Colorado. The Shoe Company did agree to do, and did so, that business. These facts have driven our minds with compelling force to the conclusion that within the true intent and meaning of the constitution and statutes of Colorado the Rubber Company was not doing business in that state and the contracts between these litigants are valid and enforceable."

VIEWS ON THE CONGO.

ONE of the illustrations on this page is a view at Citas station, Stanley Pool, on the Congo river—the point where rubber coming downstream has to be transferred, on account of the cataracts, to the Congo railway, by which it is conveyed 260 miles toward the Atlantic to Matadi, where it goes aboard steamers for Europe. The picture shows an upper Congo boat and its



CONGO STEAMERS AND CARGO AT CITAS.

cargo just unloaded. As has been mentioned before in *THE INDIA RUBBER WORLD*, most of the trading companies up the Congo are represented, in the transfer of the rubber at Stanley Pool, by Compagnie Industrielle et des Transports ou Stanley Pool "Citas," the direction of which is in the hands of Captain Vitta, in Africa, and Monsieur E. Hinck, in Brussels. Monsieur Hinck also belongs to the administrative department of the Congo railway, and is a director in the American Congo Co., the company formed in New York last year to work a rubber concession on the river Kassai.



ANOTHER VIEW AT CITAS.

[Showing Mr. S. P. Verner (on the right) and Mr. E. M. Cravath.]

The second illustration, also a view at Citas, shows two gentlemen connected with the American Congo Co.—Mr. Samuel Phillips Verner, general manager (on the right), and Mr. Erasmus M. Cravath. Mr. Verner is in charge of the preliminary exploration work of the American Congo Co. in the interior, a region with which he has long been familiar. He had twelve years' business experience in the Congo Free State and was special commissioner of the country to the St. Louis exposition in 1904.

A copy of the Index to Mr. Pearson's "Crude Rubber and Compounding Ingredients" will be sent free by mail.

THE CONDITION OF TRADE.

IT is asserted generally in the rubber trade that up to October last the volume of business was large and the demand good. One of the largest concerns in the country reports sales for the first ten months of this year 24 per cent. larger than for the same months of 1906; another and still larger company reports business for the current fiscal year, to November 9, at 11 per cent. larger, and so on. Collections likewise were satisfactory. There have been indications visible for some time past, however, of lighter buying in certain large channels, though one important company in the field of railway supplies reports a larger trade in that line in October than in the same month last year. This was attributed to the railway companies involved having postponed buying until replenishing their supplies had become a necessity.

The suspension of certain New York banks—not due, by the way, to any evidence of their not being solvent—was followed by a stringency of currency throughout the country, to relieve which the government has resorted to every means within its power, and millions of gold have been imported. The effects of the stringency have not all disappeared, however, and the leading centers report continued delays in making collections from country districts. In city and country alike, for that matter, the disposition is to hold real money as long as possible. Checks to a very large extent have been accepted by banks only "for collection."

As a member of the trade expresses it: "We hear all the time that the farmers have plenty of money, and are prosperous, but they take good care to hold on to it. But when they have anything to sell, they always demand spot cash." Another rubber man said that much of the recent trouble seemed due to a popular ignorance of banking. People expected interest on their bank deposits, and then were surprised if they couldn't draw out their money on a minute's notice.

A leading manufacturing corporation early in October, before the recent "panic" began, sent out instructions to all its factories to retrench in every expense possible and to reduce the working force. In two of the factories, later, it became necessary to recall some of the men on account of the receipt of important orders. To-day those factories are working only on orders.

Some of the rubber shoe factories have been closed, and not all of them for a definite time. An official of one of the companies said: "We have made and shipped to date more rubber shoes than in the same months of any former year, but they have all been on 'detailed' orders. Ordinarily we should keep at work adding goods to stock, and in all probability should sell the goods before the season closes, but on account of the financial situation just now we do not deem this wise. The date of resumption of work will depend upon how further orders come in."

"Business is good," said a mechanical goods manufacturer. "That is, it has been good. There was nothing the matter with the country, nothing the matter with business, money was plentiful. But this scare has come on, all without reason, and it will take a good while for business to reach its old level again."

The fact that crude rubber prices have fallen lately below any quotations for several years past does not necessarily imply that the cost of rubber goods will decline to a corresponding extent—at least for some time to come. While rubber may be bought in open market for less money than formerly, every steamer arriving from rubber ports is carrying rubber contracted for in advance at higher than current quotations. Besides, manufacturers are understood generally to be well supplied with rubber bought at the prices prevailing two or three months ago, or earlier. Naturally this rubber must be disposed of before factories can take into account, in making up cost lists, the prices now quoted for rubber in open market. It is estimated in the trade that little rubber reaches the actual consumer in the

form of manufactured goods within a month of the arrival of the raw material in port. Many of the larger manufacturers have rubber in store for several months ahead, and goods when made up may be kept in stock for months, and even for years, before coming into actual use. It is plain, therefore, that there can be no close relation between the price of raw material at any given period and the prices of manufactured goods.

STANDARIZING FIRE HOSE FITTINGS.

PROGRESS continues to be made toward the adoption, in American cities, of standard hose and hydrant couplings, as a part of the fire fighting equipment. There has been a lack of support, however, in some quarters where the special committee of the National Fire Protection Association having this work in charge supposed that the movement would have the earnest support of city officials. Thus in Baltimore, where the last great fire was fought at a disadvantage because not all the equipment sent from neighboring cities could be used, on account of the lack of uniformity of couplings, a large number of new hydrants have since been set, but the National standard has not been adopted. Nor has Toronto, which similarly suffered not long ago from the lack of uniform couplings, seen fit as yet to adopt the new system.

A New York journal, *Insurance Engineering*, has lately compiled some facts bearing upon the subject of hose and hydrant couplings, based upon reports from 75 American cities, in 22 of which the National standard has been adopted. In 14 of these cities the adoption occurred within the past year. For the most part the cities which have adopted the new standard are small, though Chicago and St. Louis have been added to the list within the period covered by the report. In 15 cities using the National standard, 2,635 new hydrants were set during the year, while in 33 other cities 5,425 new hydrants were set, showing that the tendency is not all in the direction of uniformity. The National standard has not been adopted in New York, in which city, including Brooklyn, 3,074 new hydrants were set in the year.

The movement for standardization in the field above referred to had its inception as early as 1873, and uniformity of fittings has since been urged constantly. Finally the National Fire Protection Association appointed a special committee on the subject, the work of which is to seek to influence the authorities of cities and towns to adopt a uniform system of sizes of fittings, screw threads, and so on. The work of the committee has received the formal support of the American Waterworks Association, the International Association of Fire Engineers, National Firemen's Association, New England Waterworks Association, National Board of Fire Underwriters, and some other bodies. The committee are hopeful, with this coöperation, of making continued headway in its work.

The committee make one point of interest in this connection: "While it is not to be assumed that all couplings and attachments for fire service which now differ from the established standard can or will be immediately discarded for that, it is possible to make the substitution gradual, easy and inexpensive by the use of adapters at all hose and hydrant couplings, until the fixed connections on the established standard gage may be made permanent on the plant already installed, while on the new hydrants and hose, standard gage should be specified as an essential to acceptance. We are reliably advised that adapters cut to the established standard gage on one side and on the other side to the present gage in use in any department, may be had at a cost of \$1 each, and can be used for either hydrant or hose couplings."

The importance of this whole subject to the rubber trade becomes more apparent with the progress of time. A year or two ago THE INDIA RUBBER WORLD obtained some opinions from this trade, which may still be pertinent. One rubber manufacturer

wrote: "We would state, first, that we have no preference for any particular thread. Second, it would make no difference to us should a standard thread be adopted."

The meaning of this statement, which voiced the sentiment of a number of other manufacturers, doubtless is that orders secured by rubber manufacturers are based upon definite specifications, and one is concerned little about the specifications sent to another factory. The letter continued, however:

"On the other hand, we should like very much to see a standard thread adopted, as it will enable us to carry couplings for fire hose in stock, which would be a great convenience, as well as prove a material saving both in time and in money."

THE TYPICAL AMERICAN MACKINTOSH.

IT is safe to say that the average traveler from abroad, asked to describe the typical American rubber coat or mackintosh, will draw his recollections most from the rubber suits worn by the tourist on the *Maid of the Mist*, at Niagara. However little of this country he may see, every foreigner takes in Niagara, and there, the chances are, gets to see more of the coats in use than he will at any one other point, unless he chance on



WATERPROOFS WORN ON THE "MAID OF THE MIST."

much rainy weather. The coats, moreover, are so distinctive as to impress themselves indelibly on the memory.

Garments for men and women, differ only, to the uninitiated, in the matter of the former having double rows of buttons down the front. The hood, too, is the same, covering the entire head, except the face, and then extending out over the neck and shoulders, like some ancient helmet. The suits recall to the novice most some fantastic *masquerade* assumed by Pythian or other orders, for one of their secret rites. FELIX J. KOCH.

"SYMMES'S HOLE" RECALLED.

THE Boston *Herald* devotes a page to stating the theory of Orville Livingston Leach, of Auburn, Rhode Island, that the earth is inhabitable in the interior. The name of Mr. Leach, by the way, doubtless is familiar to many of our readers as the inventor of a bicycle tire and of a solid rubber automobile tire, but it would appear that he is no less interested in making his cosmic theory known than in developing his tires. It is not stated whether Mr. Leach is familiar with the work of John Cleves Symmes, of Kentucky, who wrote a book early in the last century to prove the globe to be hollow and habitable within its shell. Mr. Symmes never was able to organize an expedition as he desired to prove the existence of what the none too serious public called "Symmes's hole."

The Progress of Rubber Planting.

PROFITS OF AN ANTWERP COMPANY.

THE annual report of the Federated Malay States Rubber Co., Limited, for the year ended May 31, 1907, shows profits of 173,980.35 francs [= \$33,578.21, gold], against 74,003.16 francs in the preceding year. There were disbursed in dividends 122,500 francs [= \$22,842.50], amounting to 9.8 per cent. on 1,250,000 francs capital. Additions were made to the reserve fund, provision made for directors' fees, and a balance carried over of 15,643.65 francs. The rubber yield was 32,175 pounds, against 13,222½ pounds in the previous year. This rubber was derived from 12,335 trees, or an average per tree of about 2-3 pounds. Sales during the year amounted to 14,359 kilograms [= 31,590 pounds], at an average gross price of 5s. 6d. [= \$1.33¾] per pound. The headquarters of the company are in Antwerp, and the directorate includes some important members of the crude rubber trade there.

LANADRON RUBBER ESTATES, LIMITED.

This company was registered in London October 4, 1907, with £320,000 [= \$1,557,260] capital, to acquire the widely known and successful Lanadron estate in Johore, Malay peninsula, owned and under the management of the Messrs. Pears, of Pears' soap fame, together with adjoining properties in which the Messrs. Pears are interested. This estate has become particularly noted from having been the first to produce "block" rubber on commercial scale. "Lanadron block" has won not a few prizes, and the average price obtained for it in London during the first eight months of 1907 was about 5s. 9¼d. [= \$1.40 1-3] per pound. The amount of rubber harvested in the first seven months of the year was 55,828 pounds. By August 31 about 2746 acres had been planted with *Hevea* rubber, and it was intended to plant 600 acres more by the end of the year. The prospectus indicates that the transfer of the estate was based upon the appraisal of the rubber at different ages, running from £10 [= \$48.66] per acre for rubber under one year to £190 [= \$924.63] per acre for that 8½ years old. The jungle land is valued at £3 per acre.

TWO SHILLING PLANTING SHARES.

THE £1 shares of The Vallambrosa Rubber Co., Limited, reported on in THE INDIA RUBBER WORLD November 1, 1907 (page 8), on account of the high market value attained—lately as high £9 12s. 6d.—have been divided into 2 shilling shares, in order to facilitate transfers. The change was sanctioned at a special meeting of shareholders at Glasgow on November 6.

The £1 shares of The Selangor Rubber Co., Limited, have similarly been divided into 2 shilling shares, a late London quotation for which was 19 to 20 shillings each.

"THUMB NAIL" PRUNING OF "CASTILLOA."

IN a report on the condition of Plantation "Rubio," dated October 20, the management of The Telmantepec Rubber Culture Co. say: "It is very noticeable that where we did thumbnail topping this spring the trees [young *Castilloa elastica* rubber] are growing stocky and thick. This is the result desired, and means they will the more quickly reach a tappable circumference. They are throwing out young, permanent branches, and therefore will soon enjoy an increased leaf surface, much to their advantage."

A similar report was issued during the past month by The Ohio Rubber Culture Co. (Canton, Ohio), whose Plantation "Capoacan," in Mexico, is near "Rubio."

MEXICAN PLANTING COMPANIES.

MEXICAN Mutual Planters' Association (Chicago) have begun harvesting coffee on their "La Junta" plantation, in Mexico, and announce that they are about to purchase machinery for handling 1,000,000 pounds per year. Their rubber plantation is stated to cover 5 square miles, and to embrace 2,000,000 *Castilloa* trees from 2½ to 6½ years old, of which 350,000 are expected to be

tappable within one or two years. The company's estimates of profits are based upon a yield of 4 ounces per tree at 8 years, increasing to 1 pound at 15 years.

Isthmus Plantation of Mexico (Milwaukee), upon their organization, placed their property in Mexico in the hands of the Chicago Title and Trust Co., in trust for the investors, until January 1, 1908. It is now arranged that the shareholders shall take over the property on the date named, preliminary to which the shareholders recently chose a what will be known as "The Shareholders' Committee of Five," to perfect plans for the coming transfer. The committee consists of William H. White, Charles B. Weil, Louis A. Rabig, Joseph Leverman, and Oscar Kasten.

The Mexican Culture Co. (Portland, Oregon) state that \$200,000 has been expended in the development of their plantation in Mexico, and they estimate their 5000 acres of land, of which 1256 are planted to rubber, to be worth to-day from \$400,000 to \$500,000.

A MEXICAN EXPERIMENT STATION.

A TROPICAL experiment station to be operated by the Mexican government in Mexico is being discussed and undoubtedly will take definite shape in the near future. The suggestion is to have it located on the *tierra caliente* and to devote particular attention to rubber. That such a station would be of great advantage if properly administered is self evident. The Mexican government may not be aware of it, but they have in their own borders the man above all others who, if he could be secured, would fill the position of curator well, and that individual is Mr. James C. Harvey. No one else in the republic of Mexico has spent as much time studying rubber as he has, and no other man in the republic possesses to an equal degree the respect and confidence of all of the other planters. Quietly and unobtrusively for years Mr. Harvey has collected plants, seeds and knowledge from botanical gardens all over the world, and he would start with an equipment for such an office that could hardly be excelled.

CENTRAL AMERICA.

THE Posoltega Rubber Estates, Limited, registered in London September 30, 1907, with £30,000 [= \$145,995] capital, is formed to acquire the Chiquimulapa rubber plantation, on the west coast of Nicaragua, including 400 acres planted by Paul R. Boyes, of Lytham, Lancashire, the recent owner, with 90,000 rubber (*Castilloa elastica*) trees, the oldest of which are 9 years. Mr. Boyes is a director in the company, and two other members of the board are interested in rubber in the Far East. Head office: Bloomfield House, 85, London wall, E. C., London.

The Compañía Belga de Centro-América (Sociedad Anónima), of Guatemala city, advise THE INDIA RUBBER WORLD that they own in Guatemala three rubber plantations, in addition to three estates in the rubber belt of that estate, by which it is presumed that the collection of native rubber is meant.

The plantation in Nicaragua of The Cukra Co. of Toronto, Limited, of which Gordon Waldron is the manager, and which is devoted primarily to rubber, is producing bananas on a commercial scale. The shipments during October amounted in value to \$1044.20, gold.

JAMAICA.

DURING the year ended March 31, 1907, the botanical gardens sold to planters on the island 23,226 rubber plants, of different species. Two consignments of Pará rubber (*Hevea*) seeds from Singapore were received during the year, from which a considerable number of plants resulted.

BRIEF MENTION.

THE Java Rubber Plantations, Limited, registered in London October 2 with £35,000 [= \$170,327.50] capital, acquires a pro-

ductive coffee estate in Java from a Dutch company. Considerable rubber (*Hevea*, *Ficus* and *Castilloa*) has been planted, and this planting is to be extended.

The report of the agricultural department of French Indo-China for 1906 mentions the satisfactory growth of planted *Ficus elastica*, six year old trees measuring 8 and 9 meters [$\approx 26\frac{1}{4}$ to $29\frac{1}{2}$ feet] in height. Twenty such trees yielded, from experimental tapping, 10.2 kilograms [$\approx 22\frac{1}{2}$ pounds] of rubber—an average of about $1\frac{1}{8}$ pounds per tree.

A suit was brought recently in Singapore by a broker who sought to recover his commission for assisting in the purchase, for \$7000, of a rubber plantation in Johore, which he alleged had been sold soon afterward to a Japanese syndicate for \$200,000.

Grijalva Land and Coffee Co., Limited, developing "Montezuma" plantation, in Chiapas, Mexico, have entered into a contract with A. G. Weiss to take charge of their further planting of rubber. Mr. Weiss has planted about 2000 acres to rubber on his own account, near Huimanguillo, in Tabasco state. Dividends will be paid on the Montezuma shares this year from the proceeds of sugar cane.

ANOTHER PERUVIAN RUBBER CONCESSION.

THE Peruvian Rubber Co., Limited, registered in London September 6, 1907, with a capital of £250,000 [$\approx \$1,216,625$], has for its object the exploitation of a concession from the Peruvian government (May 17, 1901) to Miguel, Forga & Sons, and transferred to Compania Gomera Villamayo, Limitada, to construct a mule road 120 miles long from a point in the province of Sandia to the Tambopata river, which flows through the Madre de Dios into the Amazon. On the completion of this road the *concessionaires* are to receive a grant of about 650 square miles of forest land, on which there is asserted to be a great amount of rubber. The latter, when the road is open, will be capable of economical transportation either to Mollendo, on the Pacific, or down past Pará. Hecht, Levis & Kahn, crude rubber merchants, are mentioned as the London agents of the new company, and M. Forga & Sons, at Arequipa, their agents in Peru. There is now much interest in Peruvian development.

RUBBER PLANTERS OF HAWAII.

THE Hawaiian Rubber Growers' Association, resulting from a preliminary meeting held on May 22 last, completed its organization and all the formalities in connection with its charter on October 12, at the headquarters of the Nahiku Rubber Co., a planting concern on the island of Maui. The charter members, numbering about 60, are described as being all men of good standing in the business circles of the territory, and the hope is expressed that the new organization may in time rival the Sugar Planters' Association in the wealth which it will represent. The *Pacific Commercial Advertiser* heads its report of the recent meeting "First Rubber Convention Ever Held Upon American Soil." The Nahiku plantation has been mentioned already in THE INDIA RUBBER WORLD. The first trees there were planted in March, 1905, including 6000 Ceará, 5000 *Hevea*, and 450 *Castilloa* trees. Last year 250 acres of Ceará, or more than 100,000 trees, were planted, and a similar amount this year, besides which at latest accounts a large number of *Hevea* seeds were about to be placed in the grounds. The illustration on this page is based upon a photograph of the members of the Rubber Association at Nahiku, with two year old Ceará rubber in the background. Other rubber estates in Hawaii mentioned recently are the Koolau plantation, of over 100,000 Ceará trees; the plantation of the Hawaiian-American Rubber Co., and those of W. G. Scott and F. Wittrock, both private estates. The Nahiku Sugar Co. have taken up rubber also, and have about 100 acres planted to date. The program of the meeting on October 12 included a paper by Dr. E. C. Waterhouse, who regards Ceará rubber as equal in quality to *Hevea* rubber, and addresses by Jared G. Smith, of United States experiment station; C. J. Austin, manager of the Hawaiian-American Rubber Co.; Jacob Kotinsky, and others. The officers elected were D. C. Lindsay, president; Dr. E. C. Waterhouse, vice president; Hugh Howell, secretary and treasurer; H. A. Baldwin and J. L. Coke, trustees. The *Advertiser* publishes a list of 64 members.



MEMBERS OF THE HAWAIIAN RUBBER GROWERS' ASSOCIATION AND PLANTED RUBBER TREES.

CONCERNING COTTON MILL HOSE.

THE great insurance companies that not only insure factory buildings against fire, but exercise a paternal interest in the manufacturers of fire extinguishing equipment, are divided into two distinct bodies—the Associated Factory Mutual Fire Insurance Companies, representing the Mutual companies, and The National Fire Protection Association, representing the stock companies. Both of these bodies have not only inspection departments, but laboratories. The Mutual inspection department, for example, has laboratories in Boston, where fire extinguishers, sprinklers, hose, and hose devices are examined and tested, and for which printed specifications are issued to manufacturers. The National Association has its main laboratory in Chicago, where work similar to that done by the Boston inspection department is carried on.

The Mutuals were first in the field in their investigation of fire hose, and the result of their recommendations has been what is known as "Underwriter's Hose," which numbers of rubber manufacturers produce and which is recommended by the Mutual companies. Hose that has not been admitted as "Underwriter's" is not recommended, although it is manufactured and sold.

The specifications of the Mutual companies cover the marking of the hose, the weave of the fabric, the weight, the general composition of the rubber lining, its jointing, cementing, number of plies in the calendering, and the thickness of the plies. There are also specifications on weight and flexibility, strength, elongation, and twist, and a manufacturers' guarantee covering all of the above points.



COTTON HOSE LABEL (FACTORY INSPECTION).

[Goods made according to the specifications of the National Board of Underwriters, and tested by the Underwriters' Laboratories are so marked.]

gation, and twist, and a manufacturers' guarantee covering all of the above points.

It is proper to say here that the Mutuals declare that since August, 1900, a period of 7 years, there has not been one piece of hose returned as faulty which was thus made under their specifications.

The National Association, which came later into the field, adopted the specifications of the Mutual companies, with only a few exceptions. For example, where the Mutual specifies 40 per cent. of Pará rubber, the National specifies 40 per cent. of pure rubber. In addition to this, there are chemical tests to determine free sulphur, combined sulphur, resins, substitutes, reclaimed rubber, mineral matter, and so on. The radical departure of the National Association from the Mutual's procedure, however, lies in their recommendation of inspection labels which they supply and which are intended to go with a factory inspection service; that is, they send an inspector to a rubber factory who takes samples of each length of hose and forwards them to the main laboratory for analysis of lining compound, of strength, tests, etc. They then select a certain number of 50 foot lengths from each lot of hose, and test it up to 200 pounds bursting pressure. If the hose passes the inspection a rubber label is put on it, each length bearing its own serial number.

As the matter now stands, most of the rubber manufacturers making the cotton mill hose have refused to accept the National's label, not that they object to factory inspection or the most searching investigation that the National Association may institute, but because they believe that if the matter is as vital as the National Association claim, and further if they pay for such inspection, that it should put upon the Association the moral obligation of not only recommending such hose as their

experts have acknowledged to be the best for fire purposes, and that they should refuse to insure risks where inferior hose is used.

It is not to be understood that there is any feeling of disagreement between the two boards of underwriters above mentioned, or between the rubber manufacturers and the National Association. The discussion is to-day largely academic and it is without doubt probable that within the near future the Mutual companies, the National Association, and the rubber manufacturers will get together on some common ground advantageous to all concerned.

THE INDIA RUBBER WORLD for November 1 contained an article on the factory inspection of insulated wire. This work is done by a special bureau affiliated with the same Underwriters' Laboratories that are mentioned in the preceding paragraphs.

STEPNEY SPARE WHEEL.

AT the first meeting of the Stepney Spare Motor Wheel, Limited, (London, October 11), a report on operations covering nine months from the date of incorporation, November 23, 1906, to August 31, 1907, showed net profits of £20,930 [= \$101,855.85], and a dividend of 20 per cent. was voted on the subscribed capital of £87,550. A branch factory has been established in Berlin, to work the German patents, under the style Stepney Auto Reserve Rad, G. b. m. H.

The Spare Motor Wheel of America, Limited, with £85,000 [= \$413,652.50] capital, was registered in London October 14, 1907, to acquire the United States patents on the Stepney spare wheel, and certain other patents relating to automobile accessories. The factory has been acquired of the St. Anne Kerosene Motor Co., at St. Anne, Illinois (about 60 miles south of Chicago). The directors are English, with the exception of Lester E. Broyles, late president of the Bradley Stillwell Co. (Kansas City, Missouri), who becomes managing director. The resident secretary in America is Ivor F. Thomas, at St. Anne.

The "spare wheel" is intended to be carried on a motor car, with the tire inflated ready for use. In case of a puncture or other injury to one of the tires in use, the spare wheel can be attached quickly and securely alongside the wheel in trouble, without waiting to remove the latter until the tour is finished. The spare wheel is referred to as being carried as easily as a spare tire or interchangeable rim. There were recently reported to be 30,000 of these wheels in use in England alone.

A SYNTHETIC RUBBER ENTERPRISE.

THE Synthetic Rubber Co., Limited, was registered in London Sept. 25, with £100,000 [= \$488,650] capital, "to adopt an agreement with F. W. Kinyon and L. Gottschalk, and to carry on the business of manufacturers of and dealers in natural and artificial rubber, gutta-percha, balata, and similar substances, dealers in synthetic rubber, manufacturers of and dealers in articles made wholly or partly of rubber, gutta-percha, balata, and the like, including waterproof fabrics, insulating compounds, and cables, tubing, hose piping, motor and other vehicle tires, synthetic, analytic, manufacturing, and experimental chemists.

WIRE HOSE ACCIDENT.—In New York a laborer was instantly killed by an electric shock when the wire wound around a rubber hose he was carrying struck the "shoe" of a car which was in contact with the third rail by which the car was operated.

THE American Association of Commerce and Trade in Berlin gave a dinner recently in honor of the Hon. James B. Reynolds, assistant secretary of the treasury of the United States, and two members of the United States board of appraisers, the three forming the American export commission which recently visited Germany.

CRUDE RUBBER INTERESTS.

A NEW RUBBER TREE IN INDO-CHINA.

THE discovery of a new rubber tree in French Indo-China, described in the *Bulletin Economique*, is of interest not so much on account of the tree as in showing the methods of the savage gatherers and the careful consideration which the French give to all such discoveries. The new tree, which belongs to the *Ulmaceae*, is called "may ten nong" or "teo-non," and is described by Dr. Ph. Eberhardt as growing 50 feet high, the leaves being a natural sandpaper. It grows only in a small area in the uplands back of Tonkin, but is there quite abundant. The herring bone is the best tapping, and the best coagulant is sulphuric acid, though the natives usually boil the milk. The best tapping is in the fall, after the rainy season, though some tapping is done in the spring, at which time the latex contains 67.6 per cent. of rubber. Some samples, carefully prepared in the native manner, took the gold medal at the Marseilles fair, and other samples were valued at 12 to 15 francs a kilo. [The higher price equaled \$1.31 1-3 per pound.] After the discovery of this tree there was a steady increase in the output of Tonkin rubber, until the general decline in rubber prices disheartened the natives, who began adulterating the product, causing prices to fall still lower.

RUBBER IN PORTUGUESE EAST AFRICA.

THE latest report (for the year 1906) of the important Companhia de Moçambique, trading in Portuguese West Africa, and having for their base the port of Beira, is generally favorable. It is stated: "The quantity of indigenous india-rubber gathered for account of the company, which has gone on increasing since 1901, has exceeded by upwards of 25 per cent. in 1906 the quantity gathered in the previous year." The amount gathered is not given, but the report says: "The total net weight of 1906 india-rubber which we have sold on the London and Hamburg markets has amounted to 25,190 kilos [=55,418 pounds], which have yielded, at par, £12,638 12s. 9d. [= \$61,505.93]." The highest price obtained was 4s. 9½d. [= \$1.16½] per pound. Mention is made of an improvement in the quality of the rubber, with corresponding better prices. The company's report for 1904 mentioned the sale of 18,502 kilos [=40,790 pounds] of rubber, at a profit equivalent to 46¾ cents per pound. The latest report states that the natives are being encouraged to plant Cearà rubber.

RUBBER DIRECT FROM IQUITOS.

A DIRECT steamship service between New York and Iquitos, Peru, has been inaugurated by the Iquitos Steamship Co., Limited, for which Booth & Co., of New York, are agents. For the present the trade will be taken care of by two boats, the *Bolívar* and *Ucayali*, with sailings from New York every 40 to 45 days, the distance being about 4940 miles. A regular steamer service between Iquitos and Europe has existed for some years, so that the greater part of the rubber produced above that port has gone across the Atlantic rather than to New York, and New York shipments to the upper rubber districts have been transferred to lighters at Manaós, Brazil, and towed to their destination.

BRITISH GUIANA.

THE difficulty over the British Guiana rubber concession [See THE INDIA RUBBER WORLD, August 1, 1907—page 337] has been settled. The withdrawal of a certain suit against the governor of the colony over granting the concession asked for by the British Guiana Rubber Concession, Limited, having been filed, the concession has been granted.

Exports of balata from British Guiana from January 1 to October 30 of this year amounted to 823,940 pounds; for the same period last year, 543,651 pounds; the greatest amount for any full year in the past, 550,691 pounds.

NATAL, SOUTH AFRICA.

THE first shipment of Tongaland and Zululand rubber was dispatched from Durban for London on October 11. A large tract of rubber country is being worked under a concession

granted by the Natal government and regular shipments are expected. The quality of the rubber is said to be excellent.

CONGO FREE STATE.

THE steamer *Bruxellesville*, leaving Antwerp on October 3 for the Congo, carried 155 cases, containing 86,000 seeds of *Hevea Brasiliensis*, to be distributed among the principal rubber trading companies.

RUBBER INTERESTS IN EUROPE.

GREAT BRITAIN.

MR. FRANK REDDAWAY, J. P., chairman and managing director of F. Reddaway & Co., Limited (Manchester), on his recent birthday, which was the occasion for an outing for the employés, was presented by the latter with a handsome silver casket. The date also marked the completion of Mr. Reddaway's thirty-fifth year in connection with the company, of which he was the founder. They are makers of the "Camel's Hair" belting and mechanical rubber goods. Mr. Reddaway had just returned from Moscow, Russia, where the company for some years have maintained a branch factory, employing 800 to 1000 hands, according to the season.

W. T. Henley's Telegraph Works Co., Limited, announced, to take effect from October 24, a reduction of 10 per cent. in their list prices (dated March, 1907) for rubber covered wires and cables, the discounts to remain unchanged.

Messrs. Joseph Fynney & Co., india-rubber merchants of Liverpool, have removed from Old Hall street, where they had been located since the establishment of the firm, to a larger and more convenient suite of offices at 55, Brown's buildings, Exchange.

NORWAY.

THE exportation of rubber footwear from this country to China has begun. Such goods are exported to China also by Great Britain, Austria-Hungary and Russia.

ITALY.

TENDERS were received lately for supplying to the Italian navy rubber goods to the value of 185,200 lire [= \$35,733.60].

WANTS AND INQUIRIES.

[447] WANTED names of makers of aluminum lasts for rubber boots and shoes.

[448] A correspondent writes to ask who makes rubber castors.

[449] "Would you favor us with the names and addresses of some firms who handle rubber valves of all kinds, that you could recommend as responsible parties to handle such goods for us?"

[450] "I have a quantity of medicinal plaster leavings which contain about 20 per cent. of upriver fine Pará rubber and would like the address of waste rubber dealers likely to be interested in goods of this class."

[451] Who makes "Rhiner" belting?

[452] Wanted names of dealers in a very fine texture of sulphur.

[453] Who makes rubber heels bearing a monogram the letters of which are "T. R. and E."?

[454] Wanted names of manufacturers of a flexible metallic hose.

[455] Who are manufacturers of chopping blocks?

[456] Is there a machine for making rubber toy balloons, and if so, who makes it?

[457] A correspondent asks who are the principal dealers in flour of sulphur?

[458] Information has been requested regarding the process of Foelsing and Bögel for the extraction of rubber from various plants.

[459] A foreign correspondent wishes to communicate with someone well acquainted with American rubber balloon manufacturers.

THE RUBBER TRADE AT SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

IN common with practically every city in the United States, San Francisco is now in the grip of the financial stringency which began lately in New York. The banks and the Clearing House Association of the city are endeavoring to avert any calamitous consequences of the tightness of the money market, and in this endeavor the governor of the state is coöperating with them by declaring a series of legal holidays from day to day. These holidays have now extended over a period of two weeks and are still continuing. As banks are not obliged to open their doors on legal holidays, they have thus been enabled to refuse the payment of gold when necessary and so conserve their strength. The Clearing House Association has issued certificates which are being circulated as currency, and the commercial life of the city is going forward, but in a restricted and cautious manner.

As far as local conditions are concerned, everything appears to be improving. The sweeping victory of the Good Government League ticket in the municipal election held on November 5 has had a reassuring effect on business generally, and as soon as the financial market in New York returns to a normal condition, everything points to an era of great prosperity on this coast.

The Morgan & Wright store established at Nos. 108-122 Tenth street, Los Angeles, under the management of Mr. F. W. Paige, is said to be one of the finest equipped west of Chicago, being finished up in Old Mission style.

The Phoenix Rubber Co., at No. 119 Beal street, report business a little more quiet than usual.

The Pennsylvania Rubber Co., at No. 512 Mission street, have nothing special to report except that business is a little quiet, owing to financial conditions.

Mr. W. Perkins, president of the Sterling Rubber Co., has just returned from the East and reports a very pleasant trip. Business, he says, has been a little slack up to the first of the month, but he thinks they are getting their share of the trade.

The Goodyear Rubber Co., at No. 573 Market street, report business very good in the fire protection line, reels and hose, and sundries applying to the holiday trade. Business in wet weather goods is a little quiet now, but as soon as the rainy season sets in, sales in that line are expected to increase greatly. Mr. George P. Moore has gone East on a business trip connected with the firm of Goodyear Rubber Co., to be gone indefinitely.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

IN regard to the rumors which have been circulated since the arrival of the present financial stringency to the effect that hundreds of men are being laid off by the larger rubber manufacturing companies here, it can be asserted that a few men have been laid off, but these, for the most part, were employed upon construction jobs which have been completed. W. A. Means, assistant treasurer of The B. F. Goodrich Co., says that plant is operating the customary full force of workmen in every department. The same company are finding some difficulty in employing a sufficient number of girls for work in the factory to keep up with their orders.

The new building at the Diamond Rubber Co.'s plant, which has been under construction for several months and which is one of the largest factory buildings in the city, is fully completed, and machinery is being installed. The wheels will begin to revolve within another month. The building is to be used for the manufacture of wire insulation and rubber specialties, and to afford more room for the tire manufacture. The mammoth structure which The B. F. Goodrich Co. have been build-

ing opposite their new office on South Main street, and which will double the amount of floor space devoted to the manufacture of tires, is also completed and occupied.

The Firestone Tire and Rubber Co., one of the most progressive of the newer rubber concerns in Akron, have taken another step toward making their plant strictly up-to-date. A restaurant has been opened upon the factory grounds for the use of the clerks, office employés, and officers.

The Mitzel Rubber Co., a concern organized in this city and since removed to Carrolton, Ohio, recently made an assignment at that place to Dr. J. R. Williams and Thomas J. Saltsman. The assets and liabilities of the company have not yet been announced, but it is claimed that the concern is a money-maker, and that it will be kept in operation by the receivers. Harvey F. Mitzel, the prime mover in the formation of the company, was formerly interested in the Pure Gum Specialty Co., of Barberton. The Mitzel concern is capitalized at \$106,000.

Fred M. Eckert, formerly of this city and now of Cleveland, has contracted with the Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, to supply Canada with the high resistance radium packing which he has patented, and which is regarded as a coming material for bearings.

"Bill" Miller, a member of the team which represents Akron in the Interstate Roller Polo League, has secured a patent on an ingenious solid rubber device which he calls a chair tire. The tire snaps onto the rocker of a chair, and promises to be a success. One of the Akron rubber companies will take up Miller's device.

The Aluminum Flake Co., with offices in this city, have been developed to a point where their product is being shipped in large quantities to almost every corner of the world. The extensive business being carried on by the concern has made it better known, perhaps, to the rubber trade than to the general public in Akron. The people of this city are just beginning to realize the importance of this industry. Not only in rubber circles is the company's finished product used, but by paint manufacturers, in ceramic work, and in many other ways.

Mr. W. B. Miller, secretary and general manager of The Diamond Rubber Co., has purchased 12 acres opposite the building of the Portage Country Club, on which it is understood he intends soon to erect one of the handsomest residences in the county.

RUBBER TRADE IN CANADA.

THE effect of the recent financial disturbances in the States has been felt less acutely in the Canadian trade than might have been thought, considering the nearness of the two countries and the extent of international business transactions. The Canadian rubber trade generally is in good condition. The growth of the country gives rise to a growth in the demand for rubber goods. The Canadians feel that they have an advantage over their neighbors in the States in respect of a more "elastic" currency, but still the conditions south of the border are having the result of increased caution in business in the Dominion.

A NEW RUBBER SHOE COMPANY.

The Kaufman Rubber Co., Limited (Berlin, Ontario), obtained their charter on November 4. The statutory meeting of shareholders was held on the next day, when the following officers were elected:

President, JACOB KAUFMAN.
Vice President, GEORGE RUMPEL.
Manager, A. A. VOELKER.
Secretary, A. R. KAUFMAN.

The board of directors includes the above and August Weseloh. Four members of the board are experienced in various branches of the rubber business; while Mr. Rumpel, who is a leading shareholder and president of The Berlin Felt Boot Co., is also a valued addition to the board. He is well acquainted through his own large business with the shoe trade in Canada, and his

broad experience thus gained will be very useful for the new company. Mr. Kaufman, the president of the company, until recently sustained a similar relation to the Merchants' Rubber Co., Limited, of Berlin. Mr. Kaufman will plan to engage in manufacturing as promptly as possible.

COMPANY NOTES.

THE Imperial Rubber Co., of Montreal, Canada, have been incorporated, with \$20,000 capital. Object stated, to make rubber goods. Incorporators: D. J. Angus, F. G. Bush, and R. C. McMichael.

Jenkins Brothers, Limited, of Montreal, Canada, have recently completed an extensive factory, for the production, for the Canadian and export trade, of the extensive line of valves which forms the output of the American firm of Jenkins Brothers (New York).

The Hadley Cement Co. of Canada, Limited (Montreal), maintain agencies at Leicester, England, and Melbourne, Australia. This company, though separate from The Hadley Cement Co. (Lynn, Massachusetts), is owned by parties interested in the latter.

THE OBITUARY RECORD.

ISAAC B. HARRIS, who died at Newtown, Connecticut, on October 27, at the age of 82, was one of a long list of Americans connected at one time with the management or operation of the North British Rubber Co., Limited. Mr. Harris became connected with the rubber industry not long after the discovery of vulcanization, and was with the Goodyears at Sandy Hook, Connecticut, employed in a factory which was taken over by the New York Belting and Packing Co., upon the formation of the latter by the late John H. Cheever, in 1856. A partner in the latter concern, on account of his interest in the Goodyear patents, was William Judson, who later was one of the founders of the North British Rubber Co. It doubtless was due to Judson that, shortly after the North British company opened a mechanical goods department, Mr. Harris was placed in charge of it as superintendent. He held this position for nearly 30 years, until 1890, when he returned to the United States, after which time he resided on the farm near Newtown, where his death occurred. Mr. Harris gave personal attention to the management of his farm, being especially fond of out-of-door life. He took great interest in harness racing, and devoted much of the late years of his life to breeding fast trotting horses. Mr. Harris is survived by a widow.

* * *

HORACE B. CAMP, one of the leading citizens of Akron, Ohio, died on November 21, aged 68 years, after having been in ill health for some time to an extent that had led him to withdraw from several business enterprises with which he had been connected. Only in September last THE INDIA RUBBER WORLD, in reporting the annual meeting of the Faultless Rubber Co., mentioned the retirement of Mr. Camp from the office of president, which he had held for several years, though he accepted a reelection as director. Mr. Camp was interested in this company from its beginning at Akron, under its present name, in 1900. He was interested also in the Camp Rubber Co. (Ashland, Ohio), incorporated in 1902, and was president of both companies up to their consolidation, early in 1904, with factories at Ashland. Before becoming interested in rubber Mr. Camp had made a fortune in the clay industry, his interest in which he transferred to the National Sewer Pipe Co. He was interested also in many other important Akron enterprises—in cement, coal mining, and fireproof construction. Mr. Camp began life with no fortune, and was a notable example of the self-made man.

* * *

GEORGE HERBERT DAY, who died on November 21 at his winter home in Florida, through his great executive ability and perhaps

greater diplomacy, contributed in a very marked degree to the development of the automobile industry in America. It was his work that wove about the Selden patent the important organization in the trade known as the Association of Licensed Automobile Manufacturers, resulting in coöperation and standardization of products—two great hobbies with Mr. Day. He was born in 1851 at Brooklyn, Connecticut, and as president of the Weed Sewing Machine Co. had to do with the first bicycles made in America, under contract for Colonel Albert A. Pope. This company was succeeded by the Pope Mfg. Co., of which Mr. Day became vice president and general manager. In his important relation to the bicycle and automobile industries Mr. Day, it will be seen, had an important influence in the development of the great demand for rubber in tires.

RUBBER TIRE INTERESTS.

PIRELLI TIRES ACROSS SIBERIA.

PIRELLI & CO. (Milan, Italy) issue a brochure devoted to the "Pekin-Paris Raid"—the automobile tour by Prince Borghese, between June 10 and August 10, 1907—a distance of about 16,000 kilometers [=9920 miles], or about 165.2 miles daily, on an average. *Le Matin*, of Paris, reports that when Mr. Pirelli went out to meet the Prince on his return and congratulated him upon the tour, the latter said: "It is I who must congratulate you, Mr. Pirelli; your tires are wonderful." The Prince was showing to his friends the front wheels of his "Itala" motor, which were still fitted with the same tires from Omsk (Siberia), and had therefore covered more than 7000 kilometers [=4340 miles]. The Prince's car was equipped throughout only with Pirelli tires.

PNEUMATIC SULKY TIRES.

TROTTERING races had not a little to do, in the United States, at least, with attracting public attention to the pneumatic tire as a factor in speed. After the record-breaking feats of Nancy Hanks, back in 1892, people began to ask with more interest than even the bicycle had prompted, "Why is the pneumatic fast?" The trotting record has been lowered continuously since the date named above, and the pneumatic sulky tire has contributed, without doubt, to each new success. The B. F. Goodrich Co. (Akron, Ohio) have issued a brochure relating to their Palmer sulky tires, which contains, incidentally, a record of trotting scores, with a statement of the races won in 1906 on Palmer tires. The Goodrich company also make a cart tire which is heavier in construction than their standard sulky tire, especially adaptable for training sulkies and light speed wagons.

TIRE COMPANY NOTES.

THE number of Michelin automobile tires made from 1896 to the end of June, 1907, is stated to have been 1,180,830, an average of 107,348 tires per year, or enough to equip 26,837 automobiles yearly for 11 years past.

Firestone Tire and Rubber Co. (Akron, Ohio) have opened a new Philadelphia branch at No. 256 North Broad street, under the management of W. R. Walton. It is excellently located in the automobile district, and embraces a floor space of 14,350 square feet.

Two of the directors of the Continental-Caoutchouc- und Gutta-percha Compagnie, of Hanover, were in attendance at the recent automobile shows—Herr Willy Tischbein (who is also president of the Continental-Caoutchouc Co. in New York) and Dr. Albert Gerlach.

For the fourth consecutive year the Cadillac Automobile Co. (Detroit) will equip their cars with the tires of the Hartford Rubber Works Co. They also adopt for their 1908 cars the Midgley "universal" rim.

The *Malay Mail*, published in the Malay States, mentions the importation by a local firm of five motor cars, the driving wheels of which are fitted with "Continental" solid tires guaranteed for 10,000 miles.

News of the American Rubber Trade.

ATLANTIC RUBBER SHOE CO.'S AFFAIRS.

JOHN R. HEGEMAN, of New York, some time ago sued, as a shareholder in the Atlantic Rubber Shoe Co., for the appointment of a receiver for that corporation, in the New Jersey chancery court. This motion was denied on July 11 [See THE INDIA RUBBER WORLD, August 1, 1907—page 355], but Mr. Hegeman filed a new application for a receiver, which was denied by Vice Chancellor Howell, sitting at Newark, on November 8. Previous to the latest decision steps had been taken for the voluntary liquidation of the company, for which purpose the directors had been designated by the court as trustees for winding up the company's business. The court, in deciding Mr. Hegeman's case, held that the trustees had conducted the company's affairs satisfactorily, and directed them to continue in the same relation. The company's factory was sold at public auction in the latter part of 1906, and the next and final step, it is supposed, will be the sale of the patents for making rubber shoes by machinery, which formed the original basis of the company.

THE TYER COMPANY'S NEW PRESIDENT.

MR. FRED. HALL JONES, who was recently elected president of the Tyer Rubber Co., was born at Andover, Massachusetts, in 1867, and was educated in the excellent schools for which that town is famous. When he was 17 years old he went to work for the Tyer Rubber Co., working two years in the factory, and in 1889 started for them as traveling salesman. In 1889 he was placed in charge of the Boston office, and in addition had the territory of New York and Philadelphia to look after as salesman. In 1902 he was appointed sales manager of the company, and two years later was made general manager. Mr. Jones for some years has been treasurer of the Rubber Sundries Manufacturers' Association, and is also treasurer of the New England Rubber Club. In addition to this, he is a director of the Queen City Rubber Co., of Buffalo, New York, director of the Andover Press (Andover, Mass.), and treasurer of the Hamilton Emery and Corundum Co. of Chester, Mass.

It is a compliment of the highest order, this election to the position of president in a company that for so many years was not only a close corporation but run on exceedingly conservative lines, and it can be taken only as a direct acknowledgment of enterprise, perseverance, and excellent business judgment. With the energetic Mr. Jones as president, the far sighted Mr. Flint as treasurer, together with a coterie of capable young men that these two have gathered around them as lieutenants, and moreover with the new enlarged factories of the company, the Tyer Rubber Co. is in a position to go very far in its special lines.

TO MAKE "CONTINENTAL" TIRES HERE.

THE Continental Caoutchouc Co., incorporated under the laws of New York State in 1903, as the American branch of the Continental-Caoutchouc- und Guttapercha-Compagnie, of Hanover, Germany, have arranged for the manufacture in America of the tires required for their trade here, instead of continuing to import them. The American made "Continental" tires are

referred to as being the same in every respect as those produced in the German factory, and are the result of careful preparation and tests that have been in progress for more than two years past. As a result of the new arrangement, it has been possible to put into effect a new American price list for Continental tires, the company now being able to avoid both the import duty and the transatlantic freight. The formal introduction upon the market of the Continental tire as an American product was made during the presence on this side of Herr Willy Tischbein and Albert Gerlach, PH. D., two of the directors of the German company. Herr Tischbein is also president of the New York Continental company, and Dr. Gerlach is an expert both as a chemist and in the tire manufacture.

Instead of erecting a new factory, the Continental people have established relations with the large mechanical goods factory of the Revere Rubber Co. (Boston), which company have had large experience in tire production, and the American Continental tires will be produced at their works at Chelsea.



FRED. HALL JONES.
[President of the Tyer Rubber Co.]

CABLE SHIP FOR AN AMERICAN COMPANY.

THE Central and South American Telegraph Co. (New York) have had built in England a cable steamer, the *Guardian*, to be employed in repair work on their lines on the west coast of South America. The steamer was equipped for its work by Johnson & Phillips, Limited, the electrical engineers, of Old Charlton and London, who manufacture a number of special devices and appliances for cable laying and repairs. The *Guardian* left London on October 5 for Callao, and will remain for three years on the Pacific coast.

APPLYING UPPERS TO RUBBER SHOES.

REPORT comes from Akron that a local inventor has designed a machine for applying uppers to rubber shoes, the apparatus now being tested out in one of the machine shops of the town. Exactly how it is done does not yet appear, but from the description the idea would not appear to be wholly new, as one of the Western rubber shoe factories has used something of this sort with a measure of success for some time.

RUBBER RECLAIMERS' CLUB.

At the annual meeting of the Rubber Reclaimers' Club, on November 7, E. R. Solliday, of the New Jersey Rubber Co., was elected president; Joseph F. McLean, of the Pequannoc Rubber Co., was elected secretary, and F. H. Appleton, of F. H. Appleton & Son, was reelected treasurer. The executive committee consists of W. T. Rodenbach, Max Lowenthal, J. A. Lambert, J. K. Mitchell and E. R. Solliday. Mr. Rodenbach and Mr. R. W. Seabury, formerly president and secretary, respectively, were tendered a reelection, but declined in favor of other members. An official reports: "The club is a success, after having been in existence for a year. It has overcome all obstacles, and everything pertaining to the club is very harmonious."

HARD RUBBER BOWLING BALLS

THE Brunswick-Balke-Collender Co., the principal manufacturers of billiard and pool tables, together with bowling alleys

and some other lines which involve the use of a considerable amount of rubber, are building an addition to their factory at Muskegon, Michigan, to which they will remove certain departments of their business now located in Chicago. They report to THE INDIA RUBBER WORLD: "This will not mean any increase so far as our purchase of crude rubber is concerned. We will continue to use crude rubber the same as heretofore in some of our departments, particularly for bowling balls."

A NEW INSULATION.

THE Green Insulation Co. (Cleveland, Ohio), the incorporation of which was reported in this paper last month (page 59), will make a non-carbonizing, non-disintegrating insulation known as "Green's Q. A. Insulation." The material is stated to be quartz and alumina; it has been introduced into rubber compounds for electrical purposes, with results reported to have been most satisfactory. The company state that there are many uses in the rubber industry to which their material may be applied. D. J. Barry is president and treasurer, and John F. Green vice-president and general manager. The company purpose building a factory next spring.

HARD RUBBER AUTOMOBILE ACCESSORIES.

THE products of the Joseph Stokes Rubber Co. (Trenton, New Jersey) in hard rubber embrace a number of specialties of interest to the automobile trade, including a steering wheel consisting of an aluminum or other metal web with a rim composed of a steel tube covered with hard rubber. These wheels are furnished in different styles to meet the requirements of various car makers; some with solid rims, others with control grips in the rim, and so on. The company's line also includes starting crank handles, grips, radiator caps, throttle lever grips, and the like.

THE GUAYULE RUBBER INTEREST.

THE Torreon (Mexico) *Enterprise* of November 16 says: "The report that the Continental-Mexican Rubber Co.'s plant in this city is likely to be closed down for a time is denied by head officials of the company. It is claimed that they have enough shrub on hand and contracted for to keep them running at the present rate for two years. Besides, they have extensive guayule lands of their own from which they can gather immense quantities of the guayule plant. It is further stated that the night force, which was recently laid off, will be put back to work just as soon as financial matters are again in good shape in the East."

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending November 23:

COMMON STOCK.

Week	Nov. 2	Sales 2250 shares	High 19 $\frac{1}{4}$	Low 16 $\frac{1}{2}$
Week	Nov. 9	Sales 3780 shares	High 17 $\frac{3}{4}$	Low 15
Week	Nov. 16	Sales 2210 shares	High 16 $\frac{1}{2}$	Low 14 $\frac{1}{4}$
Week	Nov. 23	Sales 2200 shares	High 15 $\frac{1}{4}$	Low 13 $\frac{1}{2}$

For the year—High, 52 $\frac{1}{2}$, Feb. 16; low, 13 $\frac{1}{4}$, Nov. 21.
Last year—High, 59 $\frac{1}{2}$; low, 38.

FIRST PREFERRED STOCK.

Week	Nov. 2	Sales 4374 shares	High 70	Low 61 $\frac{1}{4}$
Week	Nov. 9	Sales 2630 shares	High 70 $\frac{3}{4}$	Low 65
Week	Nov. 16	Sales 2600 shares	High 67 $\frac{1}{4}$	Low 63 $\frac{1}{2}$
Week	Nov. 23	Sales 3170 shares	High 65	Low 62

For the year—High, 109 $\frac{3}{4}$, Jan. 7; low, 61 $\frac{1}{4}$, Oct. 30.
Last year—High, 115; low, 104 $\frac{1}{4}$.

SECOND PREFERRED STOCK.

Week	Nov. 2	Sales 600 shares	High 43 $\frac{3}{4}$	Low 40
Week	Nov. 9	Sales 270 shares	High 44 $\frac{1}{4}$	Low 43
Week	Nov. 16	Sales 200 shares	High 40	Low 39 $\frac{1}{4}$
Week	Nov. 23	Sales 800 shares	High 42	Low 39

For the year—High, 78 $\frac{1}{4}$, Jan. 7; low, 39, Nov. 21.
Last year—High, 87 $\frac{1}{4}$; low, 75.

NO "WASTE RUBBER" IS WASTED.

At a recent sale at auction in Boston of the effects of a firm in the waste materials trade, the catalogue embraced more than 20 rubber items, which are repeated below, to illustrate the grow-

ing tendency to utilize worn out rubber goods of every form. The list included rubber boots and shoes, rubber strip, hard rubber valves, mixed auto tires, scrap rubber belting, scrap tape, white friction, matting and packing, bicycle tires, mixed rubber hose, fire hose, rubber sneakers, large hose, solid tires, red packing rubber, cement waste, rubber substitute, gutta-percha, pure gum scrap, hard rubber, mixed inner tubes, black rubber, white rubber, white cloth insertion packing, black horseshoe pads, red rubber, metal and rubber, carriage cloth, balloon scrap, hard rubber shavings, dress shields, and insulated copper wire.

GOODRICH GOODS IN CLEVELAND.

THE Forest City Rubber Co. (Cleveland, Ohio) have recently become the sole representatives in their territory for The B. F. Goodrich Co. (Akron, Ohio), for mechanical rubber goods. They consider this a very notable achievement, because of the very high standing of the Goodrich company, and also because The B. F. Goodrich Co. have always refrained in the past from extending to any one concern an exclusive agency for their goods. The Forest City Rubber Co. have lately completely their second year under the management of Mr. William G. Grofut, and have met with very flattering success.

SWINEHART TIRES IN EUROPE.

THE Bavarian Rubber and Asbestos Works, of 63, Crutched Friars, London, E.C., are referred to as having secured the sole licenses for the manufacture and sale of the Swinehart solid vehicle tires in Great Britain and the British colonies. This company is the British representative of Actiengesellschaft Metzeler & Co., of Munich, mentioned in THE INDIA RUBBER WORLD of October 1, 1907 (page 17), as having arranged with The Swinehart Clincher Tire and Rubber Co. (Akron, Ohio) for the manufacture of these tires in Germany.

DAVIDSON RUBBER CO.

THE Davidson Rubber Co. (Boston) are announcing prominently that they are proprietors of the Sterling Fountain Pen Co., the makers and distributors of the "Sterling" fountain pen, which would seem to set at rest any report current recently that the company have disposed of part of their business.

TRADE NEWS NOTES.

J. H. LANE & Co. (New York) are back of a large cotton duck mill which they claim will be bigger, better, and more up to date for the production of duck for belting and hose than anything before projected. The mill will be located in Georgia.

Mr. Wilmer Dunbar, superintendent of the Pennsylvania Rubber Co. (Jeannette, Pa.), has been elected vice president of the Glass City Union Deposit Bank, of Jeannette.

The new taxicabs introduced by the New York Taxi-Cab Co. [See THE INDIA RUBBER WORLD November 1, 1907—page 58] are equipped with tires made by The B. F. Goodrich Co., of Akron, Ohio.

Home Rubber Co. (Trenton, New Jersey) have begun the manufacture of insulated wire. The marking which they have adopted under the rules of the National Electric Code is a red thread woven crosswise into the braid.

The Manhattan Rubber Manufacturing Co. have renewed for ten years the lease on the premises, No. 18 Vesey street, occupied as their offices in New York.

Rumor has it that Mr. S. H. C. Miner, of Montreal, who was in Boston recently, was considering plans for equipping a new, up-to-date electrically operated rubber shoe factory for the Dominion, to be run independently of any other concern in the trade.

The Manufactured Rubber Co. (Philadelphia) has declared a dividend of 1 $\frac{1}{2}$ per cent., payable on December 2 to holders of record on November 23.

DERMOT McEVoy.

DERMOT McEVoy, the new general manager of the Derby Rubber Co., rubber reclaimers, at Derby, Connecticut, was born at Handsworth, a suburb of Birmingham, England, in 1871. He attended Lancaster school in Cambridge, but later obtained a scholarship in King Edwards grammar school at Birmingham,



DERMOT McEVoy.

where he remained until 1886. Articles of apprenticeship were signed with the Birmingham Central Tramway Co., binding him to work for three years in their new locomotive repair shops, to the end that he might lay the foundation of a mechanical engineer's education. The work in these shops embraced the making necessary running repairs to, and the rebuilding of, the small high pressure locomotives used on this system, which has since been electrified. The work was hard

and the hours long, but the lessons learned apart from machinery were patience, resourcefulness, and the many sterling qualities of the wage earners with whom he was thrown in daily contact. In 1888 his father, Bernard McEvoy, moved to Canada, and became editorially connected with the *Toronto Mail and Empire*, in which position he became well known. The subject of this sketch followed when his apprenticeship was finished, and connected himself with the Polson Iron Works, at Toronto, where he worked at first as a journeyman fitter and erector. In less than a year he was taken into the drawing office, where his shop experience stood him in good stead. As a draftsman he worked with many firms, gaining experience and knowledge of man. The Welland Iron Works, in Toronto; The Walker Manufacturing Co., Cleveland, Ohio; The Turner Vaughn and Taylor Co., Cuyahoga Falls, Ohio; The Buffalo Engineering Co., Buffalo, N. Y.; and the Canadian General Electric Co., Petersburg, Canada, were the firms in whose service he was prior to 1895, when he became assistant to Mr. E. C. Shaw, at that time consulting engineer for The B. F. Goodrich Co., of Akron, Ohio. The work of remodelling the factory was begun, and large additions were about to be made. In 1896 Mr. McEvoy's health rendered a change necessary and he went west to a Colorado cattle ranch. Returning in the fall he opened an office as mechanical engineer in Toronto. One of his first clients was the Gutta Percha and Rubber Manufacturing Co., of that city, who were contemplating changes in their factory. His plans were accepted, and Mr. McEvoy gave up his office to become chief engineer for the company. Many changes and improvements were made during his occupancy of this position, which terminated in 1903. In this year Mr. D. Lorne McGibbon was planning to remodel the plant of the Canadian Rubber Co., of Montreal, and he secured the services of Mr. McEvoy as engineer in charge of construction. Many additions have been made since that time, including a new reclaiming plant, wash house and dry rooms boiler house and cement factory. The work of changing the general plants had to be made while they were in full operation, and Mr. McEvoy was consequently in close touch with

the details of all lines of manufacturing in every rubber factory with which he has been connected. His latest move is chronicled at the beginning of this article.

TRADE NEWS NOTES.

THE directors of the Boston Woven Hose and Rubber Co. have declared the regular semi-annual dividend of \$3 per share on the preferred stock, payable December 14, 1907, to stockholders of record December 5.

Wallace L. Gough Co. (New York and Boston) announce that W. G. Ryckman, who has become well known to the trade through his connection with the Continental Rubber Co., in the introduction of Guayule rubber, has resigned from that company to take a similar position with the house of Gough.

Mishawaka Woolen Manufacturing Co. (Mishawaka, Indiana) are reported to have purchased some additional water rights and to be making an extensive increase of their factory capacity, for which purpose new machinery is being installed.

Electrose Manufacturing Co. (Brooklyn) announce that insulators of electrose have been adopted for the overhead third rails for the electric traction system in the new "Belmont" tunnel, under the East river, New York, in view of the favorable results shown by a series of tests of this material in work of this kind lasting for 13 months.

The Fairfield Rubber Co. (Fairfield, Connecticut), at the beginning of the past month, resumed a schedule of work on full time.

Mr. Edward H. Openshaw, a very well known mechanical goods superintendent, has accepted a position with the Cincinnati Rubber Manufacturing Co., as superintendent of their works in Cincinnati.

Mr. Ernest E. Buckleton, general manager of the Northwestern Rubber Co., Limited, of Liverpool, was a visitor to the States during the past month.

MR. REIMERS AND HIS HOME.

HERMAN REIMERS, breezy, jolly, wholesome, has been again in America on a "vacation trip." Since his retirement from the crude rubber business he has made his home in Honnef, Germany, a beautiful town on the Rhine, with the "Seven Mountains" in the background, where he has built a fine home. Here he lives, when not motoring over Europe or traveling and sight-seeing. Not that he is German in the slightest degree. That he is still an American is attested by the big United States flag that on a lofty staff flies above his lawn. His old friends have given him the heartiest kind of welcome, and his fund of stories, quaint observations, and jolly descriptions of doings and sayings of others the world over prove him to be the same friendly, alert diffuser of cheerfulness that he was when he was at the head of the house of Reimers & Co. in New York.



HOME OF MR. REIMERS, ON THE RHINE.

Review of the Crude Rubber Market.

AT this writing fine new Islands Pará at New York is quoted at about 73 cents per pound—a lower price than has been mentioned in these pages for five years past. Prices for this grade for some time have fluctuated as follows:

Low.		High.	
In 1903...	83@ 84	Feb. 1; 107@108	Oct. 1.
In 1904...	90@ 91	Jan. 1; 125@126	Dec. 1.
In 1905...	114@115	Jan. 1; 132@133	June 1.
In 1906...	118@119	July 1; 124@125	Apr. 1.
In 1907...	72@ 73	Dec. 1; 118@119	Jan. 1.

Now that rubber prices seem to have reached a lower level that may be maintained for a considerable time, the opinion expressed in the American trade is that (1) rubber was too high before, (2) manufacturers are carrying considerably larger stocks, and (3) the financial stringency is having an effect on this, as on every other branch of trade. The fact that large cargoes of rubber continue to arrive, without increasing the stocks visible, while it is certain that consumption just now is reduced, is proof to leaders in the trade that manufacturers are putting in store a good deal of rubber bought "to arrive," probably at prices considerably higher than the present market. When rubber, some time ago, declined to about \$1.20 there were manufacturers who felt that the low water mark had been reached, and they ordered freely. The same manufacturers will not buy to-day at any price, on account of their supplies in store, and because they do not care to tie up more capital in raw material. It is pointed out that some of the smaller consumers are profiting by the present situation. Not buying largely, or very far ahead, they are able to secure rubber to-day, for current needs, at a price very far below the cost of the rubber which most of the larger concerns are using.

It is pointed out that when the automobile industry became firmly established here, with the accompanying demand for tires, some of the rubber firms made up large supplies of tires, many of which are yet on hand, in branch houses for instance, in order to be ready for any demand that might occur. A great deal of rubber thus went into consumption in a way in which rubber has not since been called for, and this is given as one of the reasons why the consumption of rubber, in America at least, had declined, even before the late financial trouble, which has lessened activity in the production of all lines of goods. Other branches of the trade are mentioned, in which stocks of manufactured goods have been piling up, as well as stores of raw materials, all pointing to conditions of a reduced call for crude rubber, now that financial conditions are not favorable to the production of any goods not in actual current demand. The free buying of rubber, due to the conditions above named, led for awhile to a rise in the price of the material to figures now regarded in the trade as abnormal.

Another element in the price situation is the recent enlarged production. While it remains true that rubber production elsewhere means the exhaustion of the resources, and while it is none the less true that rubber production from the *Hevea* species, in the Amazon region, is handicapped in many ways, the natural supplies of *Hevea* rubber are very great, and the amount gathered of late has shown an important rate of increase, to wit:

Year ending June 30, 1903	.....Tons	29,850
Year ending June 30, 1904	.....	30,580
Year ending June 30, 1905	.....	33,060
Year ending June 30, 1906	.....	34,490
Year ending June 30, 1907	.....	38,065

During the first part of the period here reviewed the yearly increase in the Pará rubber output was taken up by the industry, either in the manufacture of goods or for increasing factory stores. The heavy increase of 10 per cent. in production last

year, however, has resulted in an unusual surplus of rubber, which is reflected in lower prices. There is to be considered also the new source of "Pará rubber," the plantations in the Far East. The 500 or more tons shipped from Ceylon and the Malay States in 1906—and the rate of output is larger this year—do not cover all the production from plantations, in actual weight. Further, the trade counts a ton of plantation Pará as equal to more than a ton of ordinary Pará, owing to the lower shrinkage. That is, 500 tons from Ceylon and Malaya would be equivalent, according to some estimates, to 600 tons of rubber from the Amazon. There is to be mentioned, finally, the new rubber from Mexico—guayule—the production of which lately has been estimated at 1,000,000 pounds a month.

To sum up, we have more rubber from the Amazon, the new plantation rubber, and guayule rubber, all coming at a time when the aggregate demand is less pressing, following all of which the reorganization of the financial system—what the so-called "panic" really amounts to—has tended to check consumption of commodities of every kind. Hence, lower prices, certainly for some months to come.

Of course any increase in demand for rubber would tend at once to put up prices. To-day, as has been explained, American manufacturers have little reason to buy, besides which the end of the year is approaching, when factories usually wish to reduce stocks rather than add to them. Increased buying is bound to come, however, and the question is what new price level may be looked for. Fine new Islands Pará rubber has been over \$1 since the beginning of 1904, though before that date it had seldom reached that figure, and had never long remained above it. Going back twenty years, in fact, rubber of this grade was never quoted in New York at over this figure except during parts of 1898, 1899, and 1900, until 1904, as above stated, since which time new conditions have seemed to point to a permanently higher level. While it is never safe to predict what rubber prices will be, rubber manufacturers, probably will not base their plans for future business upon a basis of rubber at less than \$1.

Some African grades continue to be quoted at prices relatively higher than Pará's, but this is on account of limited supplies of these sorts, and the fact that a few manufacturers insist upon having particular grades of Africans for certain compounds, preferring to pay any price which may be necessary to secure them to changing their formulas. This condition cannot be expected to last indefinitely, however, and already the tendency is toward a decline in Africans to correspond with what has taken place in Pará sorts. Recent sales at Antwerp have included less rubber than usual for American account, and the feeling prevails in the trade that a good deal of Congo rubber is accumulating in the hands of dealers rather than going into consumption.

Despite the amount of cultivated Pará rubber reaching New York, this new grade can hardly be said to have "found itself" in this market. It ranks as "Pará," of course, but not as equal to Amazonian rubber, the superior price paid being due solely to the small degree of shrinkage of the Ceylon product. The feeling exists, however, that better rubber will be coming forward from the Far East as the cultivated trees become more mature, and the trade already is beginning to watch with interest the various plantation marks, with a view to determining the relative merits of the different lots coming to market.

Reports from Mexico are to the effect that there has been a decline in the activity of guayule rubber production, presumably due to the conditions of financial stringency in the United States. Some of the mills are said to be storing their products, with a view to awaiting a better demand. Shipments of guayule rubber to Europe have been more active of late than to the States.

to fill uncompleted contracts made at higher prices than now obtain on new business.

Following are the prices at New York for Pará grades, one year ago, one month ago, and November 29—the current date. Prices for many grades are purely nominal, in the absence of transactions of importance:

PARA.	Dec. 1, '06.	Nov. 1, '07.	Nov. 29.
Islands, fine, new.....	119@119½	91@ 92	72@73
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	123@124	99@100	83@84
Upriver, fine, old.....	127@128	105@106	86@87
Islands, coarse, new.....	71@ 72	56@ 57	44@45
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	97@ 98	84@ 85	66@67
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	76@ 77	62@ 63	56@57
Caucho (Peruvian) ball.....	95@ 96	80@ 81	66@67
Ceylon (Plantation) fine sheet.....	136@137	113@114	93@94

AFRICAN.

Sierra Leone, 1st quality	76@77	Lopori ball, prime.....	75@76
Massai, red.....	76@77	Lopori strip, prime.....	72@73
Benguella	50@51	Madagascar, pinky.....	62@63
Accra flake	12@13	Ikelemba	none here
Cameroon ball	61@62	Soudan niggers	72@73

CENTRALS.

Esmeralda, sausage	62@63	Mexican, scrap.....	62@63
Guayaquil, strip	52@53	Mexican, slab.....	50@51
Nicaragua, scrap.....	62@63	Mangabeira, sheet.....	45@46
Panama, scrap.....	50@51	Guayule	30@31

EAST INDIAN.

Assam	75@76	Borneo	33@34
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Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	3\$400	Upriver, fine.....	4\$550
Islands, coarse.....	2\$250	Upriver, coarse.....	3\$500
		Exchange	15¼d.

Latest Manãos advices:

Upriver, fine.....	4\$300	Exchange	15 7-32d.
Upriver, coarse.....	2\$300		

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			Total 1907.	Total 1906.	Total 1905.
	Fine and Medium.	Coarse.				
Stocks, September 30...Tons	124	49 =	173	156	317	
Arrivals, October	933	380 =	1313	1354	1189	
Aggregating	1057	420 =	1486	1510	1506	
Deliveries, October	938	378 =	1316	1385	1279	
Stocks, October 31.....	119	51 =	170	125	227	
	PARA.			ENGLAND.		
Stocks, Sept. 30...Tons	572	1450	477	550	485	307
Arrivals, October	2950	2985	3350	895	840	878
Aggregating	3522	4435	3827	1445	1325	1185
Deliveries, October ..	3105	4295	3672	850	825	875
Stocks, October 31..	417	140	155	595	500	310
World's visible supply, October 31.....Tons					2779	
Pará receipts, July to October 31.....					7670	
Pará receipts, Caucho, same dates.....					880	
Afloat Pará to United States, October 31.....					835	
Afloat Pará to Europe, October 31.....					762	

Liverpool.

EDMUND SCHLUTER & Co. report [October 31]:

Reports at Manãos since July 1 (although not those at Pará) were larger in 1907 than in 1906; dear money and curtailed credit have diminished the buying power of the consuming markets, and with the continuance of these unfavorable circumstances an early improvement of prices does not seem probable. On the other hand, it is probably true that a large "short" amount exists, and any delay in the receipts at Manãos during November-December—especially should America have an early winter—may quickly put a different aspect on the market. There appears to be no serious complaint by manufacturers of want of business, with the possible exception of a portion of the mechanical trade, chiefly in the United States.

THE WORLD'S VISIBLE SUPPLY OF PARA, OCTOBER 31.

	1907.	1906.	1905.	1904.	1903.	1902.
Tons	3750	2562	2936	2207	2457	3107
Prices, hard fine.....	4/0½	5/2¼	5/2½	5/-	4/2½	2/3¼

LIVERPOOL STOCKS OF AFRICAN RUBBER, OCTOBER 31.

1907.....299	1904.....401	1901.....673
1906.....340	1903.....235	1900.....789
1905.....246	1902.....547	1899.....547

OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1907.....	3,231,861	293,394	2,938,467
January-August	50,500,909	3,024,797	47,476,112
Nine months, 1907..	53,732,770	3,318,191	50,414,579
Nine months, 1906..	47,242,543	2,587,413	44,655,130
Nine months, 1905..	48,769,898	2,356,825	46,413,073

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1907	2,644,620	881,100	1,763,520
January-August	24,224,640	8,251,540	15,973,100
Nine months, 1907..	26,869,260	9,132,640	17,736,620
Nine months, 1906..	27,919,320	8,731,800	19,187,520
Nine months, 1905..	33,791,120	12,538,900	21,252,220

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1907	2,391,620	1,318,020	1,073,600
January-August	22,206,140	13,732,840	8,473,300
Nine months, 1907..	24,597,760	15,050,860	9,546,900
Nine months, 1906..	23,261,700	14,004,540	9,257,160
Nine months, 1905..	19,182,900	12,190,640	6,992,260

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1907	4,757,088	2,846,144	1,910,944
January-August	52,711,008	27,774,544	24,936,464
Nine months, 1907..	57,468,096	30,620,688	26,847,408
Nine months, 1906..	49,207,648	26,838,672	22,368,976
Nine months, 1905..	46,466,224	25,599,392	20,866,832

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

Rubber Scrap Prices.

LAST month's quotations are reported without change, the inactive position of the market being such as to render it impossible to give more exact prices:

Old rubber boots and shoes—domestic.....	11¼@12
Old rubber boots and shoes—foreign.....	11¼@11½
Pneumatic bicycle tires.....	7½@ 7¼
Automobile tires.....	9½@10
Solid rubber wagon and carriage tires.....	10 @10¼
White trimmed rubber.....	12½@12¾
Heavy black rubber.....	5¼@ 6
Air brake hose.....	4¼@ 5
Fire and large hose.....	3¾@ 3¼
Garden hose	2¼@ 2¼
Matting	1½@ 1½

SPECIAL NOTICES

A PRACTICAL rubber man, age 34, with 14 years' experience in shop, office, and sales, on mechanical goods and tires, wants position as superintendent, or sales manager, or preferably, manager of small factory in right location for development. Address Box 26, care of THE INDIA RUBBER WORLD. (396)

SUPERINTENDENT or MANAGER.—Position as superintendent or manager of druggists' sundries factory. Thorough knowledge of complete druggists' sundries line, either manufacturing or selling; compounds, costs, economic and improved methods of manufacture, etc. Ten years' experience with leading manufacturers. Best of references. Address Box 27, care of THE INDIA RUBBER WORLD. (397)

WANTED.—Position as superintendent or factory manager. I am qualified by business and factory experience; a close student of and systematizer of methods, with long training in reduction of labor cost and waste. Well acquainted with rubbers, and a successful compounder of mechanical and insulation stocks. Prefer an established concern, desiring to reorganize its factory method. Address J. C. W., care of THE INDIA RUBBER WORLD. (398)

WANTED.—By an old established company in California, experienced operator for Circular Loom, for weaving cotton hose. Must thoroughly understand the business and be able to break in new help and take charge of room. Address H. D., care of THE INDIA RUBBER WORLD. (399)

MASSACHUSETTS CHEMICAL CO.

WALPOLE, MASS., U. S. A.

Operate Walpole Rubber Works, Walpole Varnish Works.

RUBBER MANUFACTURERS CAN SAVE MONEY BY USING OUR

No. 17 RUBBER FLUX No. 48

It permits additional compounding and puts old stocks in a merchantable condition

Our Flux is used extensively by wire manufacturers for slicking and weatherproofing. Write for prices and samples. We are the largest manufacturers of Friction Tapes in the world. If interested write us about Friction Tape and Cloth.



THIS HANDSOME COLORED HANGER, 26 x 17, IS FURNISHED GRATIS WITH ORDERS FOR

GLORIA RUBBER SPONGES

GLORIA

PRUSSIAN RUBBER SPONGES

Carried in Stock for Prompt Delivery

Also in stock during December for Christmas Sales Hanover Red Rubber Toys, Hanover Inflated Painted Balls, Hanover Combs, etc.

THE HANOVER RUBBER CO., Ltd.

(Hannoversche Gummi-Kamm Co., Act. Ges.)

Hanover-Limmer, Prussia

GEO. BORGFELDT & CO.

SOLE AGENTS FOR U. S. AND CANADA

48 & 50 W. 4th St., NEW YORK

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

Nov. 2.—By the steamer <i>Madeirense</i> , from Manãos and Pará:					
IMPORTER.	Fine.	Medium.	Coarse.	Caucho.	Total.
General Rubber Co.....	120,400	18,300	67,200	6,400	212,300
Poel & Arnold.....	99,700	22,500	47,800	.....	170,000
New York Commercial Co....	83,000	18,300	24,200	6,800	132,300
A. T. Morse & Co.....	90,300	9,500	19,200	400	119,400
Hagemeyer & Brunn.....	24,300	300	13,200	.....	37,800
Edmund Reeks & Co.....	5,700	.....	.....	.....	5,700
Total	423,400	68,900	171,600	13,600	677,500

PARA RUBBER VIA EUROPE.

POUNDS.	
OCT. 26.—By the <i>Baltic</i> =Liverpool:	
Poel & Arnold (Caucho).....	11,500
OCT. 26.—By the <i>Waldersee</i> =Hamburg:	
A. T. Morse & Co. (Caucho).....	3,000
OCT. 29.—By the <i>Minnehaha</i> =London:	
General Rubber Co. (Coarse).....	9,000
OCT. 29.—By the <i>Kroonland</i> =Antwerp:	
W. L. Gough Co. (Fine).....	6,500

OCT. 30.—By the <i>Eithel Fred'h</i> =Mollendo:	
W. R. Grace & Co. (Caucho).....	6,500
OCT. 30.—By the <i>Carmania</i> =Liverpool:	
New York Commercial Co. (Coarse)	42,000
Poel & Arnold (Caucho).....	4,500
NOV. 8.—By the <i>Quilpec</i> =Mollendo:	
New York Commercial Co. (Fine)	8,500
New York Commercial Co. (Coarse)	2,500
W. R. Grace & Co. (Caucho)....	11,500

NOV. 9.—By the <i>Celtic</i> =Liverpool:	
Poel & Arnold (Coarse).....	4,500
NOV. 11.—By the <i>Minnetonka</i> =London:	
General Rubber Co. (Coarse).....	22,500
NOV. 18.—By the <i>Caronia</i> =Liverpool:	
New York Commercial Co. (Fine)	45,000
Robinson & Stiles (Fine).....	28,000
W. L. Gough Co. (Fine).....	5,000

NOV. 13.—By the steamer <i>Cearense</i> , from Manãos and Pará:					
New York Commercial Co....	185,700	38,100	66,500	.....	290,300
A. T. Morse & Co.....	210,600	38,200	35,200	.....	284,000
Poel & Arnold.....	186,200	40,900	33,600	14,600	275,300
General Rubber Co.....	133,700	23,500	58,800	2,100	218,100
C. P. dos Santos.....	4,700	300	46,200	.....	51,200
Hagemeyer & Brunn.....	1,100	.....	5,300	.....	6,400
Total	722,000	141,000	245,600	16,700	1,125,300
NOV. 11.—By the steamer <i>Boliviar</i> , from Iquitos:					
Edmund Reeks & Co.....	5,000	.....	3,800	300	9,100

GUAYULE

WHEN PROPERLY CURED AND MIXED WITH OTHER COMPOUNDS
IS THE CHEAPEST RUBBER ON THE MARKET

**There is As Much Difference Between the Various Brands of Guayule
as Between Fine Para and Shoddy**

Guayule made from old, sun exposed shrub is **dead, dirty and sticky**, and no amount of washing will make it clean, while rubber made from freshly cut, selected shrub, has **life, low percentage of resin and is practically clean.**

Guayule has come to stay and is responsible for the drop in fine Para. The largest factories are using it in increasing quantities. If your competitor can undersell you, be sure he is reducing his cost by using Guayule. It will pay you to experiment.



has been on the market for over 18 months and is known to be the best Guayule made as to life, strength, purity and low percentage of resin



is the same high grade Guayule, **clean and dry**, ready for compounding.

No stocks kept on hand to deteriorate, but contracts made for regular monthly shipments as capacity of our five factories will permit.

For Samples and Quotations apply to

ED. MAURER

97 Water St., NEW YORK

**Sole Representative of the MADERO interests in Mexico,
largest owners of Guayule**

OTHER ARRIVALS AT NEW YORK.

CENTRALS.		POUNDS.
Oct. 24.—By the <i>Byron</i> =Bahia:		
New York Commercial Co.	34,000	
A. Hirsch & Co.	16,000	
Poel & Arnold.	11,500	
J. H. Rossbach & Bros.	5,000	
A. D. Hitch & Co.	4,500	71,000
Oct. 25.—By the <i>Proteus</i> =New Orleans:		
Manhattan Rubber Mfg. Co.	9,000	
A. T. Morse & Co.	1,500	
A. N. Rotholz.	1,000	
Eggers & Heinlein.	1,000	12,500
Oct. 26.—By the <i>Monterey</i> =Frontera:		
E. Steeger & Co.	1,500	
Harburger & Stack.	1,000	2,500
Oct. 28.—By the <i>Zulia</i> =Maracaibo:		
Suzarte & Whitney.	2,500	
Oct. 28.—By the <i>Antilla</i> =Tampico:		
Continental-Mexican Rubber Co.	*50,000	
New York Commercial Co.	*33,000	
Ed. Maurer.	*25,000	108,000
Oct. 29.—By the <i>Advance</i> =Colon:		
G. Amsinck & Co.	16,500	
Hirzel, Feltman & Co.	5,000	
Piza Nephews Co.	5,000	26,500
Oct. 30.—By the <i>Ethel Fred's</i> =Colon:		
Hirzel, Feltman & Co.	8,500	
G. Amsinck & Co.	2,500	
A. Rosenthal Sons.	2,500	
L. Johnson & Co.	1,500	15,000
Oct. 31.—By the <i>Sarnia</i> =Colombia:		
G. Amsinck & Co.	1,500	
Sperling & Williams.	1,000	
Pedro A. Lopez.	1,000	
Mecke & Co.	1,000	
D. A. De Lima & Co.	1,000	
Escobar & Gorgorza.	1,000	6,500
Nov. 2.—By the <i>Merida</i> =Vera Cruz:		
New York Commercial Co.	5,000	
Harburger & Stack.	1,500	6,500
Nov. 4.—By the <i>Panama</i> =Colon:		
L. Johnson & Co.	17,000	
Hirzel, Feltman & Co.	5,500	
G. Amsinck & Co.	4,000	
Henry Mann & Co.	3,000	
Piza Nephews Co.	1,500	
National Machine Co.	1,500	
Isaac Brandon & Bros.	1,000	33,500
Nov. 4.—By the <i>El Dorado</i> =New Orleans:		
A. N. Rotholz.	3,000	
Nov. 6.—By the <i>Prins Aug. Willem</i> =Colombia:		
G. Amsinck & Co.	4,000	
M. Blanco Co.	2,000	
Cortes Commercial Co.	2,000	
West Coast Rubber Co.	2,000	
I. Brandon & Bros.	1,000	11,000
Nov. 6.—By the <i>Colorado</i> =Mobile:		
A. T. Morse & Co.	8,000	
Nov. 7.—By the <i>Voltaire</i> =Bahia:		
New York Commercial Co.	11,000	
Thomsen & Co.	4,500	
A. Hirsch & Co.	1,500	17,000
Nov. 9.—By the <i>Dunottar</i> =Colon:		
G. Amsinck & Co.	15,000	
Dumarest Bros. Co.	5,000	
Jose Julia & Co.	2,000	
Aramburo Incpn.	1,500	
Pablo, Calvet Co.	1,000	
M. Hecht.	1,000	
Andreas & Co.	1,000	
George A. Alden & Co.	1,000	29,500
Nov. 9.—By the <i>El Paso</i> =Galveston:		
Continental-Mexican Co.	*65,000	
Nov. 4.—By the <i>Washington</i> =Tampico:		
Ed. Maurer.	*135,000	
New York Commercial Co.	*48,000	183,000
Nov. 13.—By the <i>Sigismund</i> =Colon:		
G. Amsinck & Co.	6,000	
J. Johnson & Co.	7,000	
Hirzel, Feltman & Co.	5,000	
A. Held.	5,000	
A. M. Capens Sons.	2,500	
A. Santos Co.	1,500	
Roldau & Van Sickle.	1,000	28,000
Nov. 13.—By the <i>El Norte</i> =Galveston:		
Ed. Maurer.	*25,000	
Nov. 15.—By the <i>Mexico</i> =Frontera:		
Harburger & Stack.	4,500	
E. N. Tibbals Co.	1,500	
H. Marquardt & Co.	1,500	
New York Commercial Co.	1,000	
Graham Hinkly Co.	1,000	9,500

CENTRALS—Continued.

Nov. 18.—By the <i>Dunottar</i> =Bahia:		
J. H. Rossbach & Bros.	15,000	
Nov. 20.—By the <i>El Rio</i> =Galveston:		
Ed. Maurer.	*22,500	
Nov. 19.—By the <i>Proteus</i> =New Orleans:		
A. T. Morse & Co.	3,000	
Manhattan Rubber Mfg. Co.	2,500	
G. Amsinck & Co.	2,500	
A. N. Rotholz.	1,000	9,000
Nov. 19.—By the <i>Altai</i> =Colon:		
G. Amsinck & Co.	2,500	
L. Johnson & Co.	7,000	
Colombian Trading Co.	2,500	
Schultz & Goschen.	6,500	
Isaac Brandon & Bros.	3,000	
A. Santos & Co.	2,000	
Hirzel, Feltman & Co.	1,500	25,000
Nov. 20.—By the <i>Colon</i> =Colon:		
G. Amsinck & Co.	25,000	
Hirzel, Feltman & Co.	10,000	
Dumarest Bros. Co.	3,000	
L. Johnson & Co.	3,000	
R. Fabien & Co.	3,500	
Isaac Brandon & Bros.	1,500	
Pablo, Calvet Co.	1,500	
Colombian Trading Co.	1,000	
Henry Mann & Co.	1,000	47,500

*This sign in connection with imports of Centrals denotes Guayule Rubber.

AFRICANS.

		POUNDS.
Oct. 26.—By the <i>Baltic</i> =Liverpool:		
Poel & Arnold.	34,000	
A. T. Morse & Co.	11,500	
A. W. Brunn Co.	7,000	52,500
Oct. 26.—By the <i>Waldersee</i> =Hamburg:		
A. T. Morse & Co.	33,000	
Poel & Arnold.	25,000	
General Rubber Co.	4,500	
Childs & Co.	3,500	66,000
Oct. 29.—By the <i>Kroonland</i> =Antwerp:		
W. L. Gough Co.	11,500	
A. T. Morse & Co.	9,000	
Poel & Arnold.	4,000	
Robinson & Stiles.	7,000	
Rubber Trading Co.	5,500	37,000
Oct. 30.—By the <i>Carmania</i> =Liverpool:		
General Rubber Co.	22,500	
Poel & Arnold.	11,000	
George A. Alden & Co.	10,000	
W. L. Gough Co.	4,500	
Earle Brothers.	3,500	51,500
Nov. 2.—By the <i>Lucania</i> =Liverpool:		
General Rubber Co.	67,000	
Livesey & Co.	3,000	
A. W. Brunn Co.	1,500	71,500
Nov. 4.—By the <i>Gascoyne</i> =Havre:		
Robinson & Stiles.	7,000	
Nov. 6.—By the <i>Armenian</i> =Liverpool:		
General Rubber Co.	75,000	
Nov. 6.—By the <i>President Grant</i> =Hamburg:		
Poel & Arnold.	31,000	
General Rubber Co.	18,000	
A. T. Morse & Co.	13,500	
Livesey & Co.	4,500	
W. L. Gough Co.	3,000	
Rubber Trading Co.	2,500	72,500
Nov. 7.—By the <i>Samsland</i> =Antwerp:		
George A. Alden & Co.	50,000	
Poel & Arnold.	25,000	
A. T. Morse & Co.	33,500	
Joseph Cantor.	11,500	120,000
Nov. 9.—By the <i>Touraine</i> =Havre:		
George A. Alden & Co.	11,500	
Nov. 9.—By the <i>Celtic</i> =Liverpool:		
General Rubber Co.	45,000	
Poel & Arnold.	26,000	
A. T. Morse & Co.	4,500	
W. L. Gough Co.	6,500	82,000
Nov. 11.—By the <i>Trignac</i> =Bordeaux:		
General Rubber Co.	67,000	
A. T. Morse & Co.	33,500	
Joseph Cantor.	3,500	104,000
Nov. 12.—By the <i>Potsdam</i> =Rotterdam:		
A. T. Morse & Co.	22,500	
Rubber Trading Co.	2,500	25,000
Nov. 14.—By the <i>Peninsular</i> =Lisbon:		
Poel & Arnold.	44,500	
George A. Alden & Co.	11,500	56,000
Nov. 15.—By the <i>Pretoria</i> =Hamburg:		
General Rubber Co.	15,000	
Robinson & Stiles.	5,500	20,500

AFRICANS—Continued.

Nov. 18.—By the <i>Arabic</i> =Liverpool:		
General Rubber Co.	22,500	
Nov. 18.—By the <i>Caronia</i> =Liverpool:		
Poel & Arnold.	22,500	
Rubber Trading Co.	5,500	28,000
EAST INDIAN.		POUNDS.
Oct. 24.—By the <i>Wray Castle</i> =Singapore:		
W. L. Gough Co.	33,500	
Joseph Cantor.	7,000	40,500
Oct. 29.—By the <i>Minnehaha</i> =London:		
General Rubber Co.	*9,000	
A. T. Morse & Co.	*2,500	11,500
Oct. 29.—By the <i>Tudor Prince</i> =Singapore:		
W. L. Gough Co.	24,000	
George A. Alden & Co.	4,000	28,000
Nov. 4.—By the <i>Hohenfels</i> =Colombo:		
A. T. Morse & Co.	*10,000	
Nov. 7.—By the <i>Cestrian</i> =London:		
A. T. Morse & Co.	*15,000	
Nov. 6.—By the <i>Aberlour</i> =Singapore:		
Heabler & Co.	22,500	
W. L. Gough Co.	6,500	
Robinson & Stiles.	2,000	31,000
Nov. 11.—By the <i>Minnetonka</i> =London:		
General Rubber Co.	*9,000	
General Rubber Co.	6,500	
A. T. Morse & Co.	5,000	20,500
Nov. 12.—By the <i>Rotenfels</i> =Colombo:		
A. T. Morse & Co.	*11,500	
Nov. 18.—By the <i>Mesaba</i> =London:		
A. T. Morse & Co.	*18,000	
George A. Alden & Co.	*7,000	25,000
Nov. 21.—By the <i>Satsuma</i> =Singapore:		
W. L. Gough Co.	16,000	

*Denotes Plantation Rubber.

GUTTA-JELUTONG.

Oct. 29.—By the <i>Tudor Prince</i> =Singapore:		
M. Joachemsens.	325,000	
Heabler & Co.	170,000	
W. L. Gough Co.	125,000	
George A. Alden & Co.	100,000	
L. C. Hopkins & Co.	100,000	820,000
Nov. 5.—By the <i>Ryndam</i> =Rotterdam:		
George A. Alden & Co.	45,000	
Nov. 6.—By the <i>Aberlour</i> =Singapore:		
M. Joachemsens.	175,000	
Poel & Arnold.	200,000	
Robinson & Stiles.	150,000	
Heabler & Co.	100,000	625,000

GUTTA-PERCHA.

Nov. 1.—By the <i>Adriatic</i> =Liverpool:		
W. L. Gough Co.	9,000	
Nov. 6.—By the <i>Aberlour</i> =Singapore:		
H. Pauli & Co.	35,000	

BALATA.

Oct. 21.—By the <i>Caribbean</i> =Ciudad Bolivar:		
G. Amsinck & Co.	35,000	
Frame & Co.	5,000	40,000
Nov. 4.—By the <i>Alanoa</i> =Demerara:		
George A. Alden & Co.	5,000	
Middleton & Co.	1,000	6,500
Nov. 5.—By the <i>Prins Maurito</i> =Curapano:		
A. T. Morse & Co.	8,000	
Nov. 9.—By the <i>Grenada</i> =Bolvair:		
G. Amsinck & Co.	22,500	
Nov. 12.—By the <i>Guiana</i> =Demerara:		
George A. Alden & Co.	3,500	
Nov. 16.—By the <i>Prins Nederland</i> =Demerara:		
A. T. Morse & Co.	11,500	
Frame & Co.	4,500	16,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—OCTOBER.		
Imports:	Pounds.	Value.
India-rubber	5,355,300	\$3,808,193
Balata	95,972	44,629
Gutta-percha	27,825	14,660
Gutta-jelutong	3,748,358	200,629
Total	9,228,453	\$4,068,111
Exports:		
India-rubber	36,128	\$29,799
Balata	6,375	2,475
Reclaimed rubber	1,000	200
Rubber Scrap Imported	1,378,112	\$135,595



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WILL CHICLE BE LOWER?

[The following communication to a leading New York commercial paper is reprinted for the interest of any of our readers who may be concerned with its subject, and not with any intention or desire to influence trade opinion on one side or the other.]

TO THE EDITOR OF THE JOURNAL OF COMMERCE AND COMMERCIAL BULLETIN—Sir: In December last I took the liberty of calling your attention to the chicle gum market, stating that there was no scarcity of the article, that prices were fictitiously high, brought about purely by speculation, and added, that the termination must be most disastrous to the speculators. Events

have borne out the correctness of these statements. The bulls still quote prices 47@50c. per pound, when in reality it would be difficult to sell 500 pounds at 5 cents per pound lower. The bulls within three weeks have sold over 100,000 pounds of prime old dry chicle, costing them not less than 50 cents per pound, at 40 cents per pound, and in addition to this over 150,000 pounds of new crop chicle has been sold to arrive at 39 cents per pound, and to-day it would be troublesome to sell a carload lot to a manufacturer at several cents below this price.

The bull speculators know this, but having high cost goods still for sale hope that by quoting prices way above the actual they may succeed in disposing of some part of their still considerable spot holdings, besides misleading Mexican shippers as to the real market value in the hope that shipments may be held back, in which event the bulls would be enabled to unload at better prices. It is not often that such tricks prevail. However, let us be charitable, for the bulls have suffered much.

Chicle prices are now ten cents per pound lower than they were two months ago; two years ago chicle sold at 27 cents per pound duty paid, which is 12 cents per pound lower than it is offered at to-day. To say that it is likely to sell at this price again before long may appear venturesome, but stranger things than this have come to pass. The seven large chewing gum manufacturers are supplied with chicle for from one to two years ahead, and the American Chicle Co., who use more chicle than all the other manufacturers combined, will not at any future time be forced to come into the open market as buyers, their own chicle concessions now producing annually much more gum than they can use annually in the same period.

When speculators grasp this fact and understand that it means disaster to any bull speculation, then will attempts to corner the chicle market be abandoned. It was this company who at several very critical periods in the recent eighteen months' speculation stepped in and purchased over one and one-half million pounds of chicle from the despairing bulls, but only at a loss of thousands of dollars to the helpless manipulators.

The present Mexican chicle crop will be a very large one, and as the demand for chicle, outside of the seven large manufacturers, does not total 400,000 pounds, it is clear what must and will happen to chicle prices within the next few months. Mexico does not comprehend that Honduras now ships chicle enough to determine the market value, still such is the fact. The bulk of the Honduras chicle goes direct to Canada, where, after being dried and cleaned, it is shipped to the States; this means a large saving in duty to manufacturers.

Honduras also ships chicle in large quantities to New Orleans and other Southern ports, furnishing by far the greater portion of chicle used by Southern and Western manufacturers. Only a small proportion of this chicle now arrives at this port. These shipments last season caused the hard-pushed bulls much anguish of spirit, but they bore all disappointments bravely to the last, and the courage and ardor they displayed was certainly worthy of a better ending.

Another potent reason for lower prices is the large use of substitutes. This bids fair to increase unless chicle declines enough to prohibit their sale. Trade depression has also set in and must grow in severity as the months go by. This must also have a most depressing influence upon all classes of merchandise. Sales of chewing gum have fallen off, compared with the same quarter last year, over 30 per cent. This tells the tale for chicle, and the wise ones will profit thereby.

THEO. G. VIETOR.

New York, October 11, 1907.

THE United States consul at Amsterdam, in a recent report, quotes a shoe merchant in that city as saying that American shapes in rubber footwear are regarded there with favor. The merchant intimates, however, that the English makers have an advantage in that market in respect to the matter of prices.

FORSYTH PATENT FOR PACKING WITH PLIABLE SHEET METAL INSERTION, SUSTAINED BY THE COURTS



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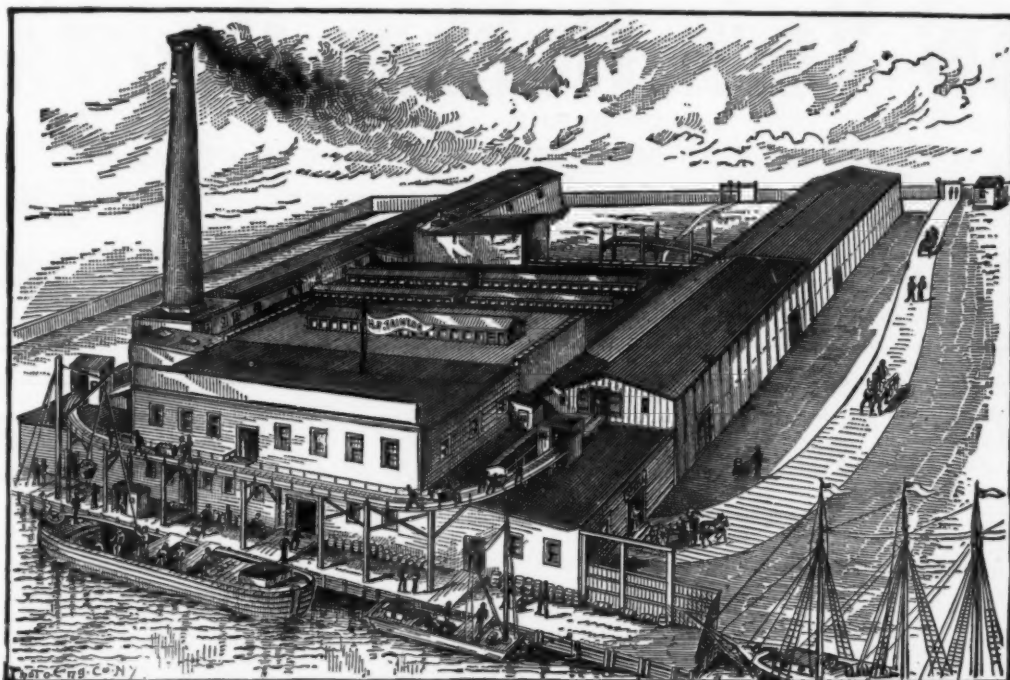
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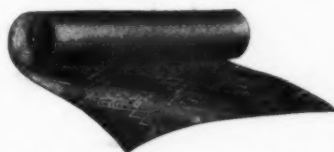
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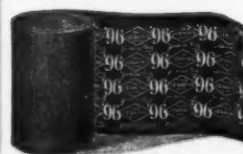
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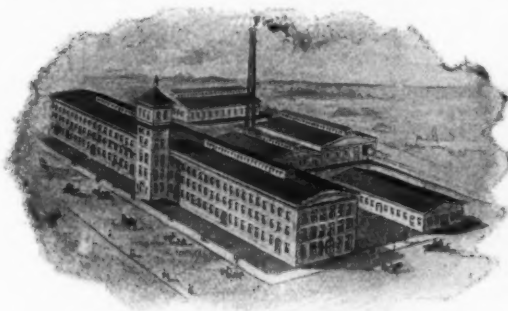


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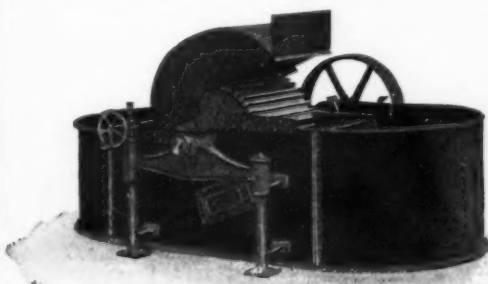
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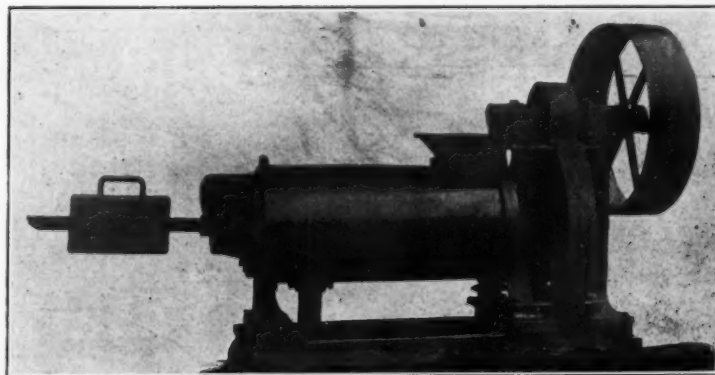
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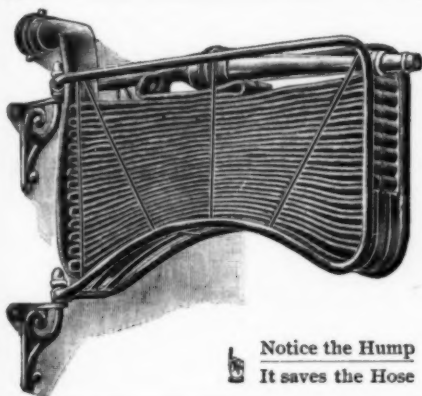
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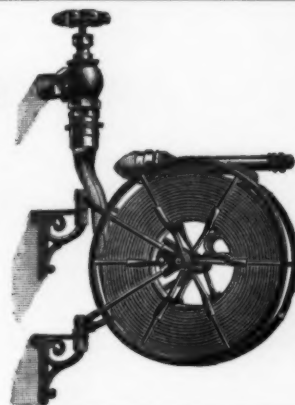
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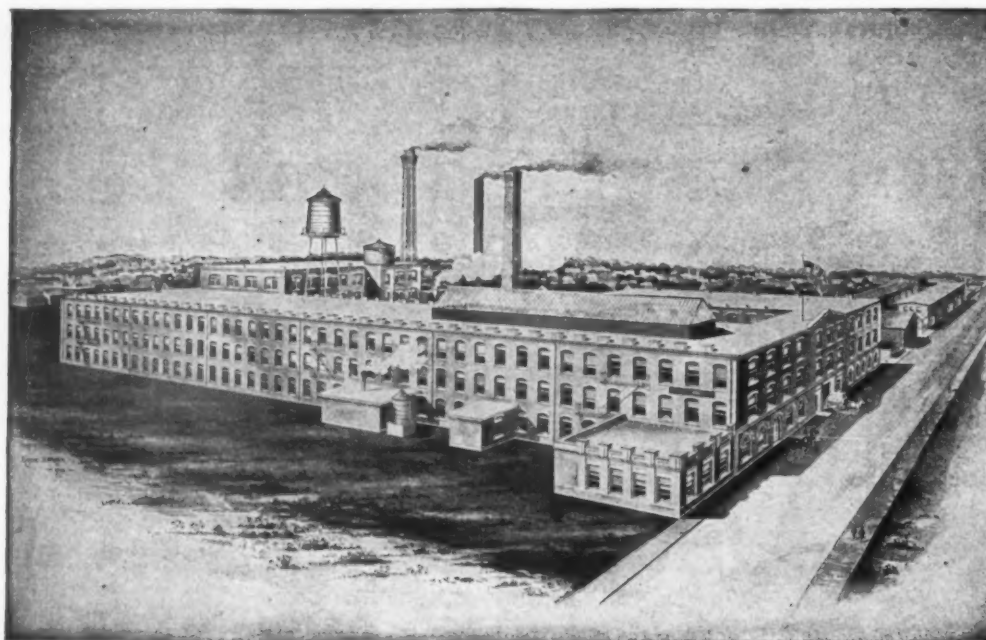
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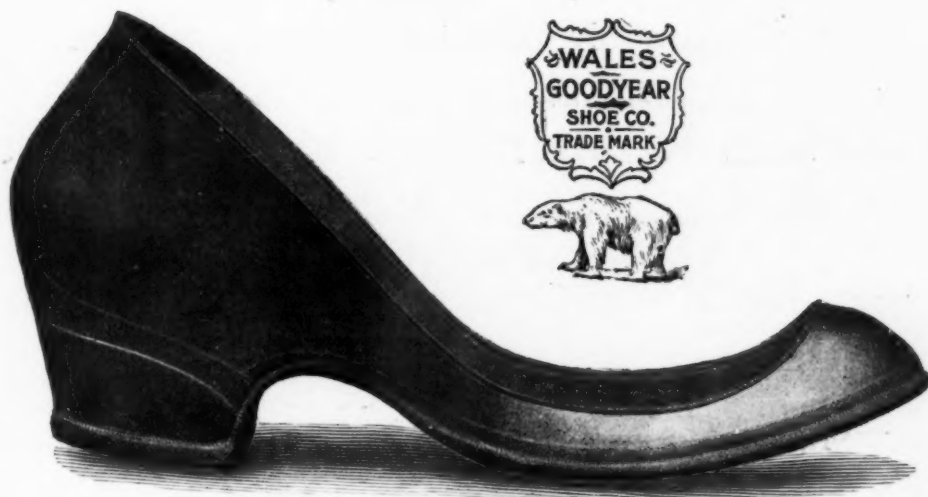
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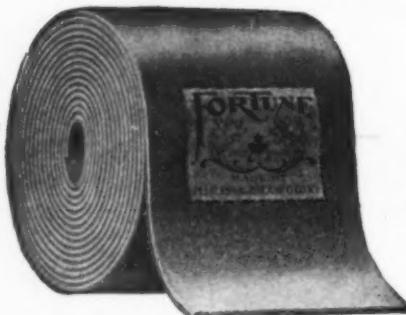


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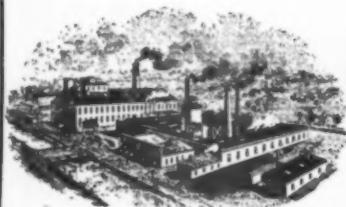
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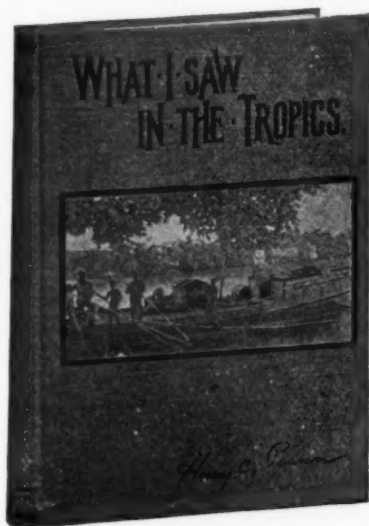
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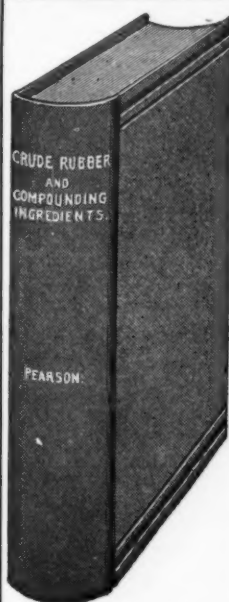


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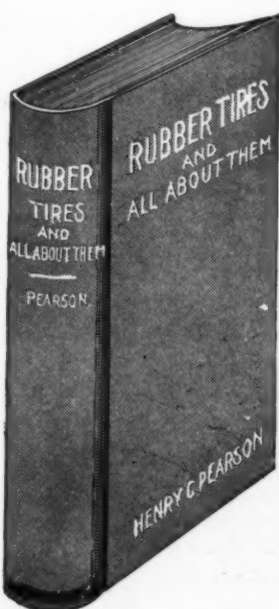
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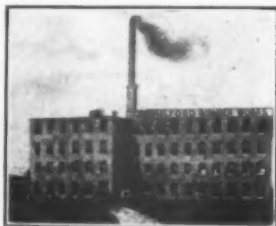
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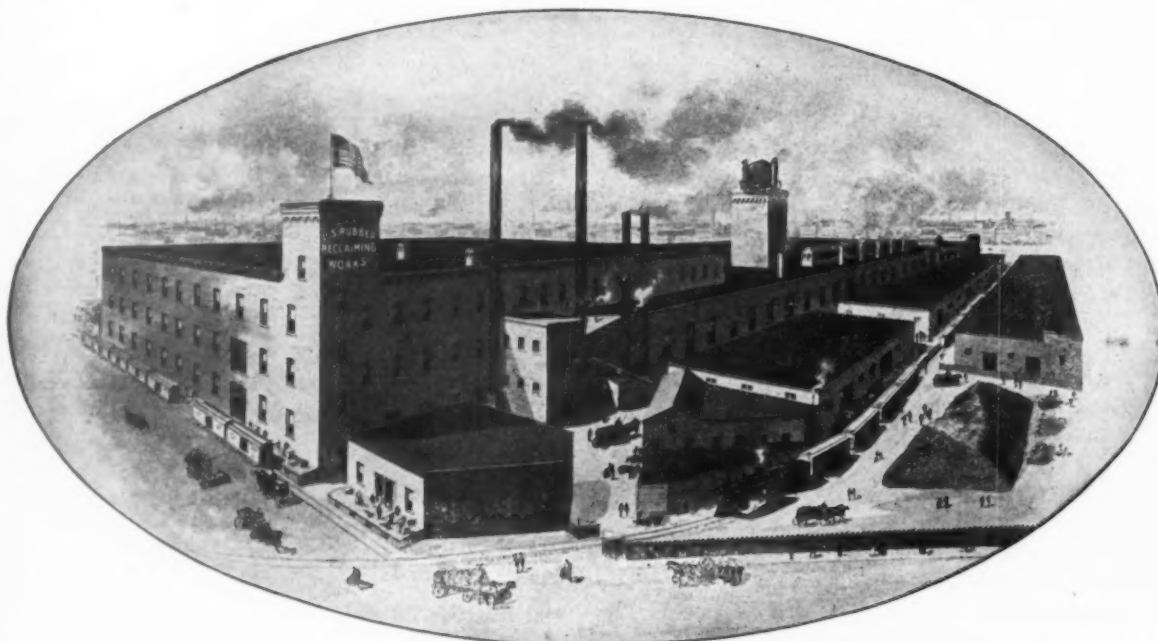
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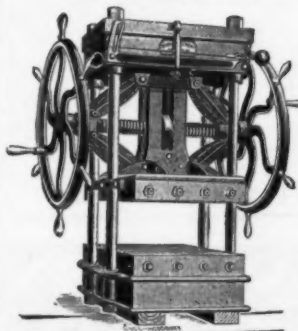
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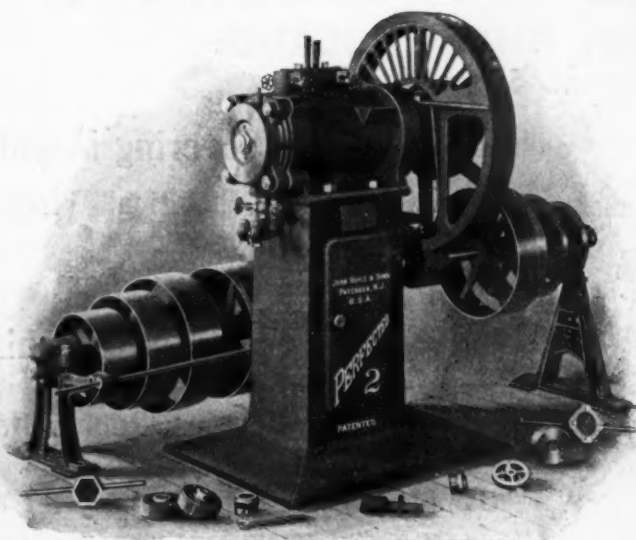
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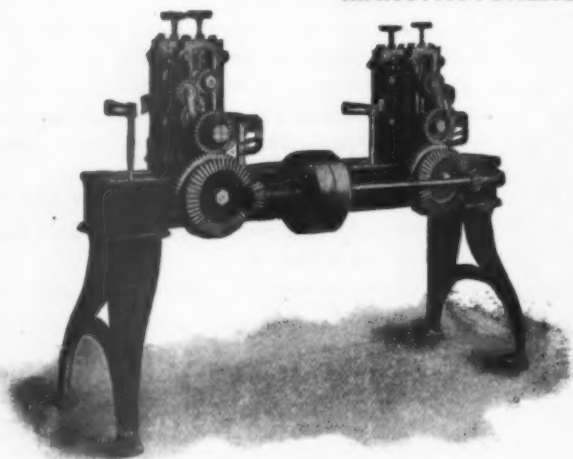
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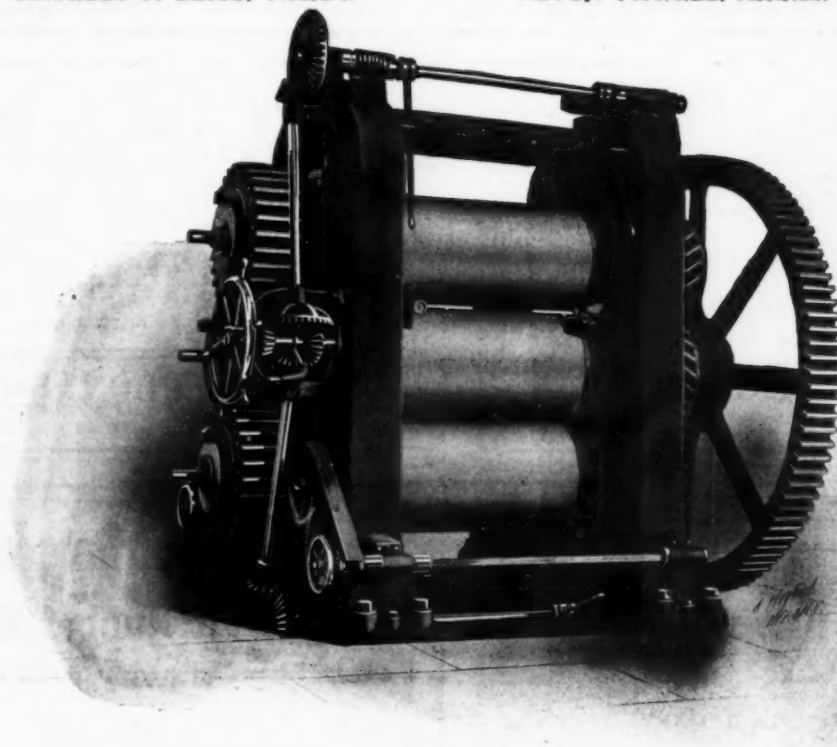
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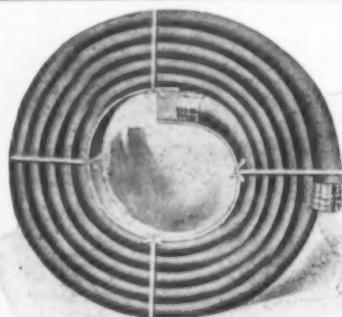
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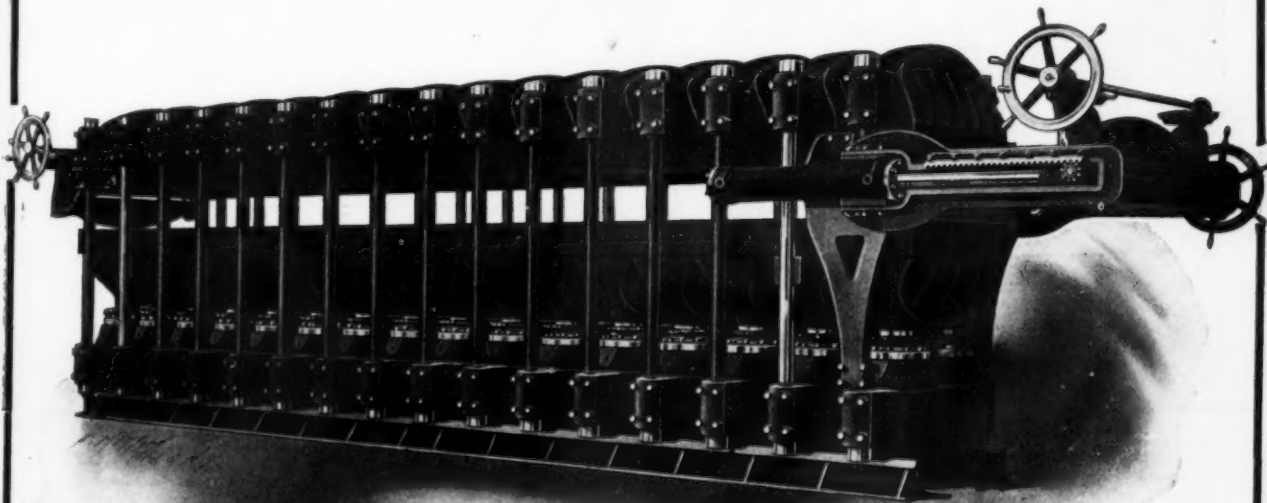
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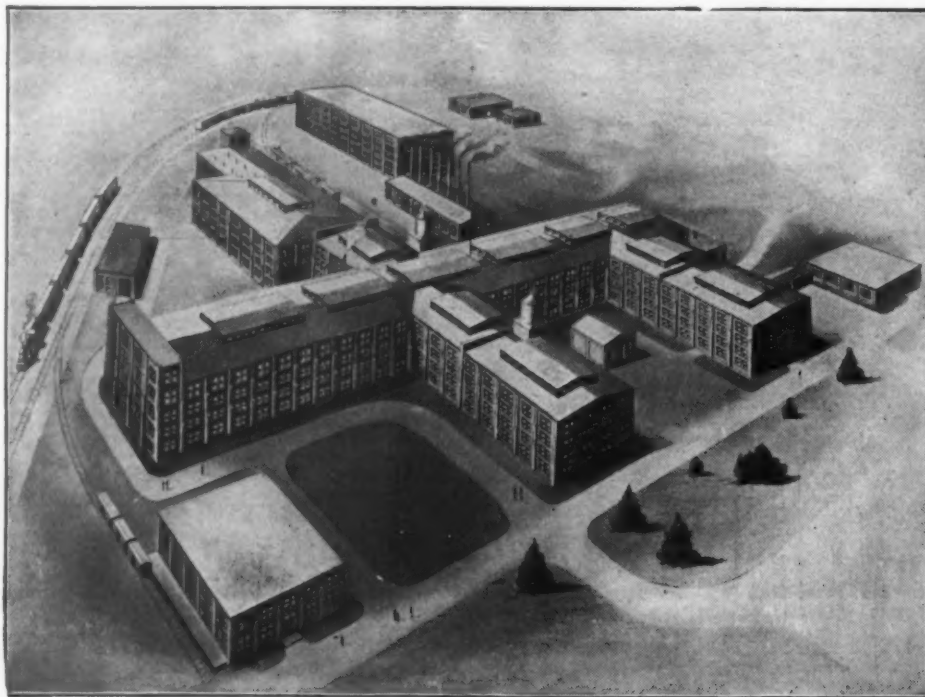
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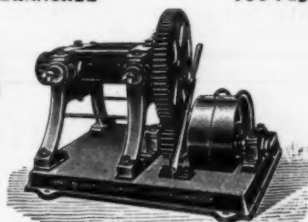
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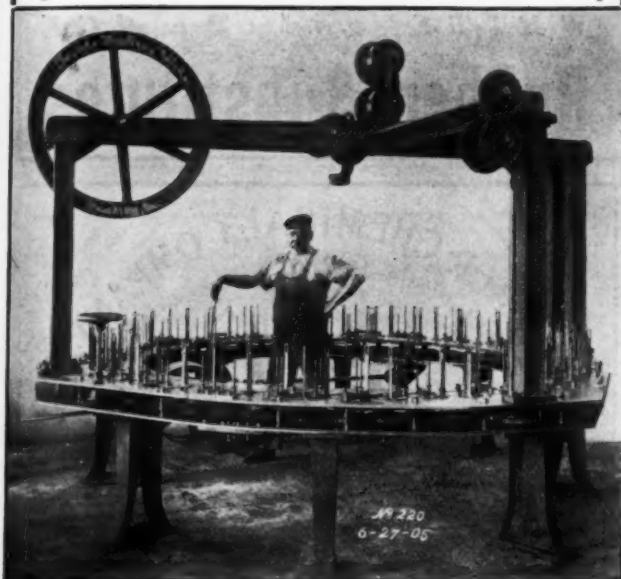
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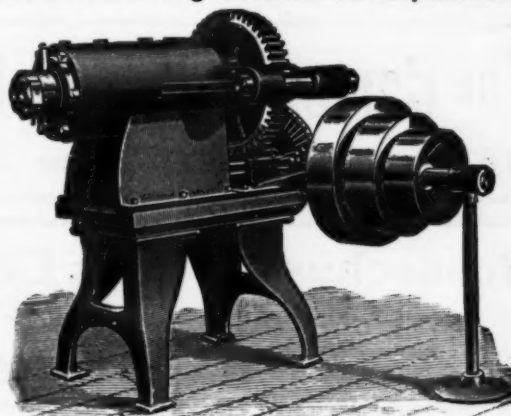
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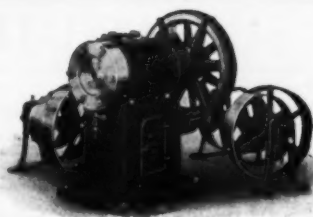
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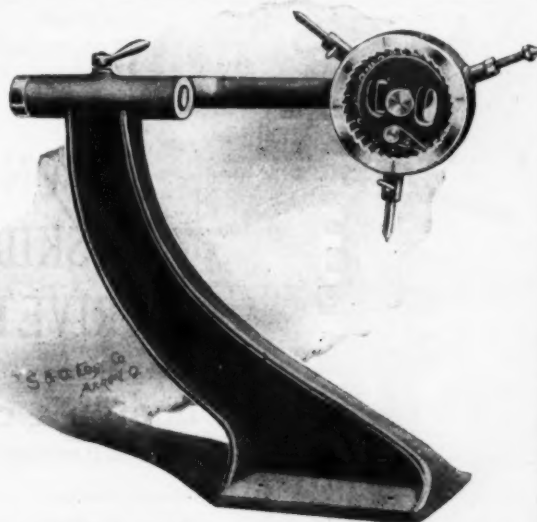
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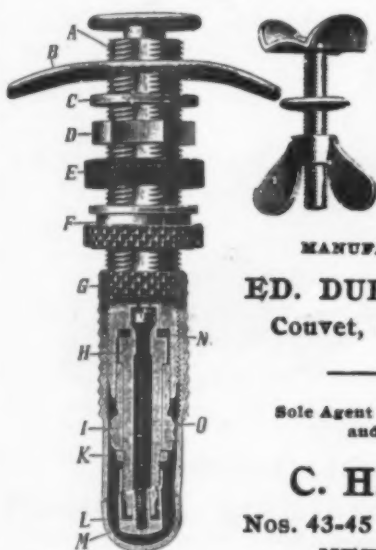
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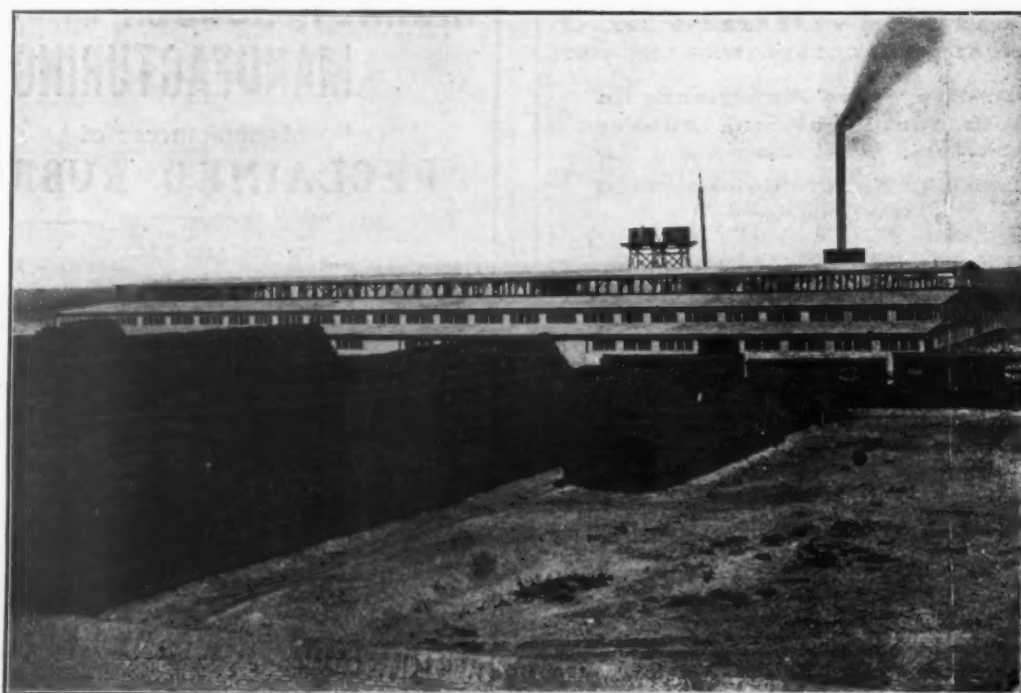
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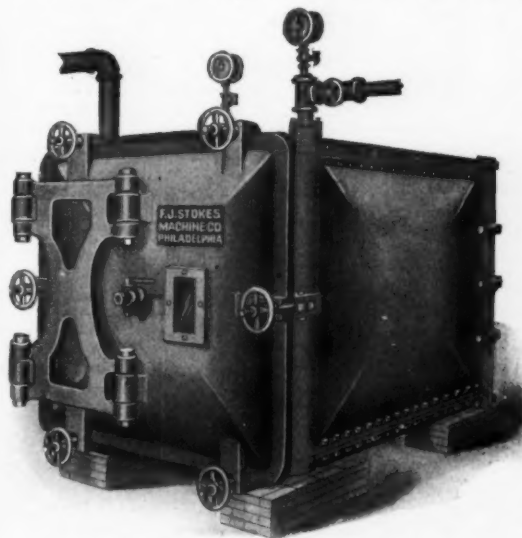
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Buffers.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

Card Cloths.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.

Carriage Mats.

Continental Rubber Works, Erie, Pa.
Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
National India Rubber Co., Bristol, R. I.

RUBBER BUYERS' DIRECTORY—Continued.

Carriage Mats.—Continued.

N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Cord (Pure Rubber).

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Deckle Straps.

Boston Belting Co., Boston.
Canadian Rubber Co., of Montreal.
B. F. Goodrich Co., Akron, O.
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Door Springs.

Hodgman Rubber Co., New York.

Dredging Sleeves.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Force Cups.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Fruit Jar Rings.

Acme Rubber Mfg. Co., Trenton.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Empire Rubber Mfg. Co., Trenton, N. J.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
New York Belting & Packing Co., N. Y.

Fuller Balls.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.

Gage Glass Washers.

Boston Belting Co., Boston, Mass.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago, Ill.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Revere Rubber Co., Boston, Mass.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Gas-Bags (Rubber).

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Dayton Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
Peerless Rubber Mfg. Co., New York.
Tyer Rubber Co., Andover, Mass.
Voorhees Rubber Co., Jersey City.

Gasket Tubing.

Boston Belting Co., Boston—New York.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New Jersey Car Spring & Rubber Co., Revere Rubber Co., Boston—New York.

Grain Drill Tubes.

Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.

Hat Bags.

Boston Belting Co., Boston.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Horse Shoe Pads.

Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Wire Wound.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
Electric Hose & Rubber Co., Wilmington, Del.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Core.

Alderfer Crate Co., Sharon Center, O.
Hose Pipes, Nozzles, Couplings and Fittings.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Eureka Fire Hose Co., New York.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Hose Linings.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.

Hose Racks and Reels.

Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
New York Belting & Packing Co., N. Y.
Wirt & Knox Mfg. Co., Philadelphia.

Hose—Rubber Lined.

Cotton and Linen.
Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Gutta Percha & Rubber Mfg. Co., N. Y.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Fabric Fire Hose Co., New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Submarine.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Continental Rubber Works, Erie, Pa.
Electric Hose & Rubber Co., Wilmington, Del.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
A. Schrader's Son, Inc., New York.

Hose Bands, Straps & Menders.

Boston Woven Hose & Rubber Co.
William Yerdon, Fort Plain, N. Y.

Lawn-Hose Supporters.

C. J. Bailey & Co., Boston.

Lawn Sprinklers.

W. D. Allen Mfg. Co., Chicago.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston—New York.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.

Mould Work.

(See Mechanical Rubber Goods.)
H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
Davidson Rubber Co., Boston.
Dayton Rubber Mfg. Co., Dayton, O.
Faultless Rubber Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hodgman Rubber Co., New York.
La Cross (Wis.) Rubber Mills Co.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., New York.
Milford Rubber Works, Milford, Ill.
Plymouth Rubber Co., Stoughton, Mass.
Stowe & Woodward Co., Campello, Mass.
Tyer Rubber Co., Andover, Mass.
Western Rubber Works, Goshen, Ind.

Oil Well Supplies.

Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.

Lake Shore Rubber Co., Erie, Pa.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Packing.

(See Mechanical Rubber Goods.)
Dayton Rubber Mfg. Co., Dayton, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
New Jersey Car Spring & Rubber Co.
Voorhees Rubber Mfg. Co., Jersey City.

Paper Machine Rollers.

Boston Belting Co., Boston—New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Plumbers' Supplies.

Canadian Rubber Co., of Montreal.
H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Pump Valves.

(See Mechanical Rubber Goods.)
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Revere Rubber Co., Boston—New York.
Western Rubber Works, Goshen, Ind.

Rolls—Rubber Covered.

Boston Belting Co., Boston.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Stowe & Woodward Co., Campello, Mass.

Sewing Machine Rubbers.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.

RUBBER BUYERS' DIRECTORY—Continued.

Stair Treads—Continued.

Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Thread.

B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston—New York.

Tiling.

Canadian Rubber Co., of Montreal, Ltd.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring and Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.

(See Mechanical Rubber Goods.)
American Hard Rubber Co., New York.
Continental Rubber Works, Erie, Pa.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
New Jersey Car Spring & Rubber Co., New York.
New York Belting & Packing Co., N. Y.
Tyer Rubber Co., Andover, Mass.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Valve Discs.

American Hard Rubber Co., New York.
Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Valves.

(See Mechanical Rubber Goods.)
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York-Chicago.
Milford Rubber Works Co., Milford, Ill.
New Jersey Car Spring & Rubber Co., New York.
New York Belting & Packing Co., N. Y.

Vulcanite Emery Wheels.

Manhattan Rubber Mfg. Co., Passaic, N. J.
New York Belting & Packing Co., Ltd., New York.

Wringer Rolls.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES.

Atomizers.
Bandages.
Bulbs.

Syringes.

Water Bottles.

Druggists' Sundries—General.

American Hard Rubber Co., New York.
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Hygeia Nursing Bottle Co., Buffalo, N. Y.

Imperial Rubber Mfg. Co., Beach City, O.
L. & M. Rubber Works, Canton, Ohio.
Luzerne Rubber Co., Trenton, N. J.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.

Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Balls, Dolls and Toys.

New York Rubber Co., New York.

Combs.

American Hard Rubber Co., New York.

Elastic Bands.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Tyer Rubber Co., Andover, Mass.

Erasive Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.

Finger Cots.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Mfg. Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
The Rubber Products Co., Barborton, O.

Gloves.

Canadian Rubber Co., of Montreal.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
National India Rubber Co., Bristol, R. I.
Rubber Products Co., Barborton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co., of Montreal.
Davidson Rubber Co., Boston.
H. O. Canfield Co., Bridgeport, Ct.
Davol Rubber Co., Providence, R. I.
Household Rubber Co., Youngstown, O.
Luzerne Rubber Co., Trenton, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyer Rubber Co., Andover, Mass.

Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Ice Bags and Ice Caps.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Imperial Rubber Mfg. Co., Beach City, O.
National India Rubber Co., Bristol, R. I.
The Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

Life Preservers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Nipples.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hygeia Nursing Bottle Co., Buffalo, N. Y.

Imperial Rubber Mfg. Co., Beach City, O.
The Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

Shower Bath Sprinklers.

A. Schrader's Son, Inc., New York.

Sponges (Rubber).

Geo. Borgfeldt & Co., New York.
Faultless Rubber Co., Ashland, O.
N. Tire Rubber Sponge Co., Chicago.

Stationers' Sundries.

American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
A. Schrader's Son, Inc., New York.
Tyer Rubber Co., Andover, Mass.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Tyer Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co., of Montreal.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
The Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

MACKINTOSHED AND SURFACE GOODS.

Air Cushions.

Metropolitan Air Goods Co., Reading, Mass.

Air Goods (Rubber).

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Metropolitan Air Goods Co., Reading, Mass.
New York Rubber Co., New York.
National India Rubber Co., Providence.
Tyer Rubber Co., Andover, Mass.

Air Mattresses.

Canadian Rubber Co., of Montreal.
Metropolitan Air Goods Co., Reading, Mass.
Mechanical Fabric Co., Providence, R. I.
National India Rubber Co., Bristol, R. I.

Barbers' Bibs.

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Tyer Rubber Co., Andover, Mass.

Bathing Caps.

Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.

Bellows Cloths.

Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.

Calendering.

La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Gutta Percha & Rubber Mfg. Co., Toronto.
National India Rubber Co., Bristol, R. I.

Clothing.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Gutta Percha & Rubber Mfg. Co., of Toronto.

Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.

Cravenette.

Cravenette Co., Ltd.

Diving Apparatus.

A. Schrader's Son, Inc., New York.
Hodgman Rubber Co., New York.

Dress Shields.

Mattson Rubber Co., New York.

Horse Covers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Leggings.

Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Mackintoshes.

(See Clothing.)

Proofing.

Canadian Rubber Co., of Montreal.
La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.
Stowe and Woodward, Campello, Mass.

Rain Coats.

Cravenette Co., Ltd.
Rubber Coated Cloths.
Mechanical Fabric Co., Providence, R. I.

RUBBER FOOTWEAR.

Boots and Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Canadian Rubber Co., of Montreal.
La Crosse & Co., New Haven, Ct.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., of Toronto.
Hood Rubber Co., Boston.
Lycorning Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.
Milford Rubber Works Co., Milford, Ill.
National India Rubber Co., Boston.
North British Rubber Co., Ltd., Edinburgh.
United States Rubber Co., New York.
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Continental Caoutchouc & Guttapercha Co., Hanover.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Plymouth Rubber Co., Stoughton, Mass.
Western Rubber Works, Goshen, Ind.

Tennis Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
La Crosse Rubber Mills Co., La Crosse, Wis.
National India Rubber Co., Providence.
United States Rubber Co., New York.

Wading Pants.

Canadian Rubber Co., of Montreal.
Hodgman Rubber Co., New York.

DENTAL AND STAMP RUBBER.

Dental Gum.

American Hard Rubber Co., New York.
Cleveland Rubber Co., Cleveland, O.
Tyer Rubber Co., Andover, Mass.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Stamp Gum.

B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL.

Electrical Supplies.

American Hard Rubber Co., New York.
Lake Shore Rubber Co., Erie, Pa.
Joseph Stokes Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Tyer Rubber Co., Andover, Mass.

Friction Tape.

Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

RUBBER BUYERS' DIRECTORY—Continued.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Lerner Rubber Co., Trenton, N. J.
Joseph Stokes Rubber Co., Trenton, N. J.

Insulating Compounds.

Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., Toronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.

The Indiana Rubber and Insulated Wire Co., Jonesboro, Indiana.
National India Rubber Co., Providence.

Splicing Compounds.

Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Walpole, Mass.

SPORTING GOODS.**Foot Balls.**

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Rubber Products Co., Barberton, O.

Submarine Outfits.

Hodgman Rubber Co., New York.
A. Schrader's Sons, Inc., New York.

MISCELLANEOUS.**Boxes (Wood).**

Henry H. Sheip & Co., Philadelphia.

Brass Fittings.

A. Schrader's Son, Inc., New York.

Buckles.

The Weld Mfg. Co., Boston.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Hadley Cement Co., Lynn, Mass.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Chemical and Mechanical Engineer.
Charles E. Farrington, Boston.

Chemists.

Stephen P. Sharples, Boston, Mass.

Consulting Engineers.

Akron Rubber Engineering Co., Akron, O.
M. P. Fillingham, New York.

Recording Thermometers.

Bristol Co., New York.

Rubber Journals.

Gummi-Zeitung, Dresden, Germany.
L'Agriculture des Pays Chauds, France.

Rubber Tree Seeds.

J. P. William & Bros., Heneratoda, Ceylon.
Paul Krumbholz, Momotombo, Nicaragua.

Scrap Metals.

Robert L. Crooke, New York.

Stair Nosings.

The Painesville Metallic Binding Co., Painesville, Ohio.

Tapping Tools.

G. Van den Kerckhove, Brussels, Belgium.

Valves for Air Goods.

A. Schrader's Son, Inc., New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER MACHINERY.**Acid Tanks.**

Birmingham Iron Foundry, Derby, Conn.

Band Cutting Machines.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.

Belt Folding Machines.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Slitters.**Cloth Dryers.****Gearing.****Shafting.****Wrapping Machines.**

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Stretchers.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Hogson & Pettis Mfg. Co., New Haven.

Boilers.

William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Braiders.

New England Butt Co., Providence, R. I.
Textile Machine Works, Reading, Pa.

Calenders.

Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Textile-Finishing Machinery Co., Providence, R. I.
Textile Machine Works, Reading, Pa.

Castings.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Chucks (Lathes).

Hogson & Pettis Mfg. Co., New Haven.

Churns.

American Tool & Machine Co., Boston.

Clutches.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Crackers.

Birmingham Iron Foundry, Derby, Conn.

Devulcanizers.

Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Edred W. Clark, Hartford, Conn.
William R. Thropp, Trenton, N. J.

Dies.

John J. Adams, Worcester, Mass.
Boston Die Co., Boston.
Hogson & Pettis Mfg. Co., New Haven.

Doubling Machines.

American Tool & Machine Co., Boston.

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American Process Co., New York.

Drying Machines.

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Birmingham Iron Foundry, Derby, Conn.
Textile-Finishing Machinery Co., Providence, R. I.

Embossing Calenders.

Textile-Finishing Machinery Co., Providence, R. I.

Engines, Steam.

William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Engraving Rolls.

Hogson & Pettis Mfg. Co., New Haven.

Grinders and Mixers.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Thropp, Trenton, N. J.

Hangers.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Hose Machines.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
New England Butt Co., Providence, R. I.

Hydraulic Accumulators.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Insulating Machinery.

John Royle & Sons, Paterson, N. J.
Textile Machine Works, Reading, Pa.

Lasts (Rubber Shoe).

Middlesex Last Co., Boston.

Lathes—Hard Rubber.

A. Adamson, Akron, O.

Lathes—Jar Ring.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
William R. Thropp, Trenton, N. J.

Machinists' Tools.

Hogson & Pettis Mfg. Co., New Haven.

Moulds.

A. Adamson, Akron, O.
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Hogson & Pettis Mfg. Co., New Haven.
Williams Foundry & Machine Co., Akron, Ohio.

Pillow Blocks.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Porcelain Forms for Dipped Goods.

Colonial Sign and Insulator Co., South Akron, Ohio.

Presses (for Rubber Work).

A. Adamson, Akron, O.
Bay State Machine Co., Erie, Pa.
Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse, N. Y.
Edred W. Clark, Hartford, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Perrin & Co., Chicago Ill.
William R. Thropp, Trenton, N. J.
Williams Foundry & Machine Co., Akron, Ohio.

Pumps.

Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Racks for Boot and Shoe Cars.

Hogson & Pettis Mfg. Co., New Haven.

Reducing Valves.

Mason Regulator Co., Boston.

Rollers (Hand).

Hogson & Pettis Mfg. Co., New Haven.

Rubber Covering Machines.

New England Butt Co., Providence, R. I.

Separators.

Turner, Vaughan & Taylor Co., Cuyahoga Falls, O.

Separators for Reclaimed Rubber.

American Process Co., New York.

Special Rubber Machinery.

Wellman Co., Medford, Mass.

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Birmingham Iron Foundry, Derby, Conn.
New England Butt Co., Providence, R. I.

Steam Traps and Specialties.

Jenkins Bros., New York.
Mason Regulator Co., Boston.
Osgood Sayen, Philadelphia, Pa.

Steel Stamps.

Hogson & Pettis Mfg. Co., New Haven.

Stitchers (Hand).

Hogson & Pettis Mfg. Co., New Haven.

Strip Covering Machines.**Strip Cutters.**

New England Butt Co., Providence, R. I.

Tire Molds.

Bay State Machine Co., Erie, Pa.
Williams Foundry & Machine Co., Akron, O.

Tubing Machines.

A. Adamson, Akron, O.
Bay State Machine Co., Erie, Pa.
Edred W. Clark, Hartford, Conn.
John Royle & Sons, Paterson, N. J.
Textile Machine Works, Reading, Pa.
Williams Foundry & Machine Co., Akron, Ohio.

Vacuum Drying Chambers.

Buffalo Foundry & Machine Co., Buffalo, N. Y.
Joseph P. Devine Co., Buffalo, N. Y.
F. J. Stokes Machine Co., Philadelphia, Pa.

Varnishing Machines.

Birmingham Iron Foundry, Derby, Conn.

Vulcanizers.

Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
John E. Thropp's Sons Co., Trenton, N. J.
William R. Thropp, Trenton, N. J.

Washers.

Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Continental Rubber Works, Erie, Pa.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Thropp, Trenton, N. J.
Turner, Vaughan & Taylor Co., Cuyahoga Falls, O.

Wire Insulating Machines.

New England Butt Co., Providence, R. I.
John Royle & Sons, Paterson, N. J.

SECOND-HAND MACHINERY.

Phillip McGrory, Trenton, N. J.
M. Norton & Co., Charlestown, Mass.

FACTORY SUPPLIES.

Aluminum Flake.

Aluminum Flake Co., Akron, O.

Antimony, Sulphurets of.

Golden.
Actien-Ges. Georg Egestorff's Salzwirk.
Linden, Germany.
Atlas Chemical Co., Newtonville, Mass.
Golden and Crimmon.
Joseph Cantor, New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS—Continued.

Antimony, Sulphurets of.—Continued.

Golden and Crimson.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.

Balata.

George A. Alden & Co., Boston.
Raw Products Co., New York.

Benzol.

Samuel Cabot, Boston.

Black Hypo.

Joseph Cantor, New York.
William H. Scheel, New York.
Typke & King, London, England.

Carbon Bisulphide.

George W. Speaight, New York.

Chemicals.

Massachusetts Talc Co., Boston.
Oxford Tripoli Co., New York.
George W. Speaight, New York.
S. F. Wetherill Co., Philadelphia, Pa.

Colors.

Joseph Cantor, New York.
William H. Scheel, New York.
Typke & King, London, England.
S. F. Wetherill Co., Philadelphia, Pa.

Crude Rubber.

George A. Alden & Co., Boston.
A. W. Bruan & Co., New York.
Walter L. Gough Co., New York.
Hagermeyer & Brunn, New York.
Adolph Misch & Co., New York.
Livesey & Co., Ltd., New York.
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Rubber Trading Co., New York-Boston.

Dermatine.

The Dermatine Co., London.

Ducks and Drills (Cotton).

J. H. Lane & Co., New York.

Gilsonite.

William H. Scheel, New York.

Graphite Grease.

Jos. Dixon Crucible Co., Jersey City.

Guayule Rubber.

Continental Rubber Co.
Ed. Maurer, New York.

Gutta-Percha.

George A. Alden & Co., Boston.
Raw Products Co., New York.
Rubber Trading Co., New York-Boston.

Hydro-Carbon Products.

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Raven Mining Co., Chicago.

Infusorial Earth.

Stamford (Conn.) Rubber Supply Co.

Kapak.

Raven Mining Co., Chicago.

Lampblack.

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Lead—Blue.

Lead—Sublimed White.

Picher Lead Co., Chicago, Ill.

Lithopone.

Gabriel & Schall, New York.

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Paris White and Whiting.

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Reclaimed Rubber.

Aladdin Rubber Co., Akron, O.
Alkali Rubber Co., Akron, O.

P. H. Appleton & Son, Boston.
Bloomington (N. J.) Soft Rubber Co.
E. H. Clapp Rubber Co., Boston, Mass.
Danversport Rubber Co., Boston.
Derby Rubber Co., Derby, Conn.
Eastern Rubber Co., New York.
John Lang, London.
Manufactured Rubber Co.
New Jersey Rubber Co., Lambertville, N. J.

Pequanoc Rubber Co., Butler, N. J.
Philadelphia Rubber Works, Philadelphia.
Richaby Rubber Mfg. Co., South Framingham, Mass.
Robinson & Stiles, New York.
Stockton Rubber Co., Stockton, N. J.
Jos. Stokes Rubber Co., Trenton, N. J.
S. & L. Rubber Co., Chester, Pa.
Trenton (N. J.) Rubber Reclaiming Works.

H. S. Rubber Reclaiming Works, N. Y.
Westmoreland Rubber Mfg. Co., Grapeville, Pa.

Agents and Dealers.

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H. P. Moorhouse, Paris, France.
Rubber Trading Co., New York-Boston.
Wm. Somerville's Sons, Liverpool.

Scrap Rubber.

L. Albert & Son, Trenton, N. J.
Bers & Co., Philadelphia.
M. Berzen & Co., New York.
Wm. H. Cummings & Sons, New York.
Gordon & Rosenthal, Trenton, N. J.
Green, Hans L. & Co., New York.
Theodore Hofeller & Co., Buffalo, N. Y.
M. Kaufman, Chicago.
A. W. Leslie & Co., Ltd., London, Eng.
B. Loewenthal & Co., New York and Chicago.
J. Loewenthal & Sons, Chicago.
Phillip McGrory, Trenton, N. J.
Meyer Bros., Philadelphia, Pa.
Albert A. Moers, New York.
M. Norton & Co., Charlestown, Mass.

E. Parser & Brodsky, Antwerp.
J. Schuurmann, London.
Schwab & Co., Philadelphia.
Trenton Gutta Percha & Rubber Separating Co., Trenton, N. J.
Trenton Scrap Rubber Supply Co., Trenton, N. J.
United States Waste Rubber Co., Brockton, Mass.
M. J. Wolpert, Odessa, Russia.

Substitute.

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Joseph Cantor, New York.
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Corn Products Refining Co., New York.
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Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
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Sulphur.

Battelle & Renwick, New York.
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Zinc Substitute.

Aluminum Flake Co., Akron, O.

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Fabrics.

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National India Rubber Co., Bristol, R. I.

Insulated Wires.

The Indiana Rubber and Insulated Wire Co., Jonesboro, Indiana.

National India Rubber Co., Bristol, R. I.

Mats, Automobile.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co., Cambridge, Mass.

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Manhattan Rubber Mfg. Co., New York.

National India Rubber Co., Bristol, R. I.

Revere Rubber Co., Boston, Mass.

Repair Stock.

Trenton Rubber Mfg. Co., Trenton, N. J.
Rims, Wheel.

Goodrich Co., B. F., Akron, Ohio.

Tires.

Bailey & Co., C. J., Boston, Mass.
Canadian Rubber Co., of Montreal, Ltd.
Continental Caoutchouc Co., New York.
Continental Rubber Works, Erie, Pa.
Dunlop Tire & Rubber Goods Co., Toronto.
Empire Rubber Mfg. Co., Trenton, N. J.
Goodrich Co., B. F., Akron, Ohio.
Gutta Percha & Rubber Mfg. Co., Toronto.
The Indiana Rubber and Insulated Wire Co., Jonesboro, Indiana.

Kokomo Rubber Co., Kokomo, Ind.
Lake Shore Rubber Co., Erie, Pa.
Milford Rubber Works, Milford, Ill.
North British Rubber Co., Ltd., Edinburgh, Scotland.

Pirelli & Co., Milan, Italy.

Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, Ohio.
Trenton Rubber Mfg. Co., Trenton, N. J.

Automobile and Carriage.

Acme Rubber Mfg. Co., Trenton, N. J.
Boston Belting Co., Boston-New York.
Revere Rubber Co., Boston-New York.

Tire Fabrics.

Lane & Co., J. H., New York.

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Voorhees Rubber Mfg. Co., Jersey City, N. J.

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